# ECONOMIC SURVEY OF EUROPE IN 1981

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# ECONOMIC SURVEY OF EUROPE IN 1981

*Prepared by the*

SECRETARIAT OF THE
ECONOMIC COMMISSION FOR EUROPE
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# PREFACE

The present *Survey* is the thirty-fifth in a series of reports prepared by the secretariat of the Economic Commission for Europe to serve the needs of the Commission and to help in reporting on world economic conditions—a task which the Economic and Social Council of the United Nations has entrusted to the Department of Economic and Social Affairs.

This *Survey* is published on the responsibility of the secretariat, and the views expressed in it should not be attributed to the Commission or to its participating Governments.

The pre-publication text of this *Survey* was completed on 22 February 1982 and made available to the 37th session of the Economic Commission for Europe. The final text, incorporating minor changes, was completed on 8 April 1982.

# EXPLANATORY NOTES

The following symbols have been used throughout this *Survey*:

.. = not available or not pertinent;

— = nil or negligible;

* = estimate by the secretariat of the Economic Commission for Europe;

| = signifies a break in the comparability of a statistical series.

In referring to combinations of years, the use of an oblique stroke—e.g. 1980/81—signifies a twelve-month period (say from 1 July 1980 to 30 June 1981). The use of a short dash—e.g. 1980–1982—normally signifies either an average of, or a total for, the full period of calendar years covered (including the end-years indicated).

Unless the contrary is stated, the standard unit of weight used throughout is the metric ton. The definition "billion" used throughout is one thousand million. Minor discrepancies in totals and percentages are due to rounding.

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## CHAPTER 1

# WESTERN EUROPE

## 1. RECENT ECONOMIC DEVELOPMENTS IN WESTERN EUROPE AND NORTH AMERICA

### (i) Output and demand

In 1981 the western market economies of the ECE region were still restrained by the consequences of the second oil price shock. The immediate deflationary impact of this second round of increases in crude oil prices which, unlike the first round, was extended over a period of some 18 months from the end of 1978, was reinforced by restrictive policies designed in the first place to prevent a new inflationary spiral being set off by the higher oil prices, and in the second place to secure a further significant reduction in the underlying rates of inflation. The deflationary impact of higher oil prices on demand in the industrial market economies had probably diminished considerably by the end of 1980, but output growth in 1981 was still held back by the restrictive stance of policy which in most countries still gave priority to the reduction of inflation. This restrictive policy stance was reinforced in a number of countries by the need to reduce current account deficits and general government borrowing requirements. Fiscal policy generally tended to become more restrictive in 1981, partly in an attempt to strike a better balance between fiscal and monetary policy and to achieve lower interest rates for a given degree of monetary restraint. However, for western Europe the modest recovery of output foreseen at the beginning of 1981 has also been impeded by the rapid transmission of high and volatile interest rates from the United States where tight monetary policy has collided with an expansive fiscal policy. Because of their important effects on domestic inflation rates, west European countries have been unwilling to accept large falls in their dollar exchange rates and so their interest rates in 1981 were heavily influenced by those in the United States. Not only are high real rates of interest likely to have been an important factor in the weakness of demand for investment, but their volatility in the past two years (partly due to changes in the method of monetary control in the United States) has created a further element of uncertainty which is likely to have a negative impact on business expectations as to the timing of the expected recovery.

Against this background the growth of output in western Europe in 1981 fell for the second year running and was actually negative for the first time since 1975 (table 1.1.1). The decline in output was widespread with six of the 13 European countries registering declines of between 0.3 to 2.2 per cent; there was zero growth in Austria and Italy, while growth was positive but marginal (0.1 to 1 per cent) in Finland, France, Norway and Switzerland. The estimated increase of 2.5 per cent in Irish GDP is exceptional and largely reflects a more expansionary fiscal policy in 1981 than in 1980 and, especially, a sharp rise in publicly financed investment.

This outcome for 1981 is generally rather worse than had been expected on the basis of national forecasts at the beginning of the year, although the difference is not in fact very large: the prospects at the beginning of 1981 were for a slow recovery and, for western Europe as a whole, a marginal rise in output of some 0.2 per cent (year-on-year); instead there was a fall of nearly half of one per cent.

In the United States the cyclical recovery of output which had begun in the second quarter of 1980 was checked in the second quarter of 1981 by tight monetary policy and high interest rates which hit investment and the demand for consumer durables (particularly automobiles). GNP fell sharply in the last quarter of 1981 but for the year as a whole GDP rose by 1.9 per cent against a fall of 0.2 per cent in 1980.

For western Europe the profile of the present recession can be seen more clearly from the series for industrial production, for which quarterly data are more widely available than for GDP. For most countries individually and for western Europe as a whole, the previous upswing in the growth of production, which had started at the beginning of 1978, peaked in the first quarter of 1980 (table 1.1.2). Output then fell throughout the rest of 1980 until it was checked in the first quarter of 1981. However, the recovery was weak and quickly petered out in the second and third quarters under the influence of higher interest rates and fears of the inflationary consequences of further depreciation of most west European currencies against the dollar. For most of the European countries in table 1.1.2 output in the third quarter was actually lower than in the first, and for five of the 12 it was lower than in the last quarter of 1980.

Comprehensive data for the last quarter of 1981 are not yet available, but provisional data for October do not indicate any significant strengthening of the recovery in the European Economic

TABLE 1.1.1

**Annual changes in real gross domestic product[a]**
**1973–1976 and 1979–1982**
*(Percentages)*

| | *1973* | *1974* | *1975* | *1976* | *1979* | *1980* | *1981* | *1982* |
|---|---|---|---|---|---|---|---|---|
| Austria | 4.9 | 3.9 | −0.4 | 4.6 | 4.9 | 3.1 | – | 2.0 |
| Belgium | 6.2 | 4.5 | −1.9 | 5.3 | 2.3 | 2.4 | −1.0 | 1.0 |
| Denmark | 3.8 | −0.7 | −1.0 | 6.9 | 3.0 | −0.2 | −1.0 | 3.0 |
| Finland | 6.5 | 3.2 | 0.6 | 0.3 | 7.6 | 5.0 | 1.0 | 1.5 |
| France | 5.4 | 3.2 | 0.2 | 5.2 | 3.5 | 1.2 | 0.6 | 3.1 |
| Germany, Fed. Rep. of | 4.9 | 0.5 | −1.8 | 5.2 | 4.4 | 1.8 | −0.3 | 1.5 |
| Ireland | 4.1 | 3.7 | 2.2 | 2.0 | 2.4 | 1.9 | 2.5 | 1.0 |
| Italy | 7.0 | 4.1 | −3.6 | 5.9 | 4.9 | 4.0 | – | 1.0 |
| Netherlands | 5.7 | 3.5 | −1.0 | 5.3 | 1.8 | 0.6 | −1.0 | 1.0 |
| Norway | 4.1 | 5.2 | 4.2 | 6.8 | 4.5 | 3.8 | 0.1 | −0.1 |
| Sweden | 3.9 | 4.3 | 2.2 | 1.2 | 4.1 | 1.8 | −0.8 | 1.0 |
| Switzerland | 3.0 | 1.5 | −7.3 | −1.4 | 2.5 | 4.4 | 0.6 | −1.1 |
| United Kingdom | 7.5 | −1.0 | −0.6 | 3.6 | 1.4 | −1.4 | −2.2 | 1.2 |
| Western Europe[b] | 5.6 | 2.0 | −1.2 | 4.6 | 3.6 | 1.6 | −0.4 | 1.5 |
| Canada | 7.5 | 3.5 | 1.1 | 5.8 | 3.0 | – | 3.6 | 2.2 |
| United States | 5.4 | −0.6 | −0.9 | 5.4 | 3.2 | −0.2 | 1.9 | 3.0[c] |
| North America[b] | 5.6 | −0.2 | −0.7 | 5.4 | 3.2 | −0.2 | 2.1 | .. |

*Sources:* OECD, *National Accounts of OECD Countries*, Paris; national statistics and appendix table.
[a] At market prices.
[b] Weighted by the dollar values of 1975 GDP.
[c] Fourth quarter to fourth quarter.

TABLE 1.1.2

**Annual and quarterly changes in industrial production, 1979–1981**
*(Percentage change over previous year or quarter)*

| | | | | *1980[a]* | | | | *1981[a]* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *1979* | *1980* | *1981** | *Q1* | *Q2* | *Q3* | *Q4* | *Q1* | *Q2* | *Q3* | *Q4** |
| Austria | 7.3 | 2.8 | −1.5 | 0.7 | −0.2 | −2.3 | 1.5 | −0.5 | −0.2 | −1.6 | |
| Belgium | 4.7 | −1.3 | −3.5 | 1.7 | −2.5 | −2.6 | −4.4 | 2.8 | 1.8 | −2.6 | |
| Finland | 10.6 | 7.5 | 1.5 | 3.7 | 2.7 | 7.4 | −4.7 | −1.6 | 2.9 | 2.0 | |
| France | 4.7 | −0.4 | −2.5 | – | −2.5 | 0.9 | −2.5 | −2.6 | – | 0.9 | |
| Germany, Fed. Rep. of | 5.2 | – | −1.5 | 0.8 | −1.7 | −1.7 | −0.9 | 1.8 | −0.9 | – | |
| Ireland[b] | 6.2 | −1.0 | | 1.6 | −2.0 | −4.8 | −0.6 | 4.2 | 0.7 | 1.6 | |
| Italy | 6.7 | 5.1 | −3.0 | 4.2 | −2.6 | −7.6 | 5.3 | 1.0 | −2.8 | −4.2 | |
| Netherlands | 2.8 | – | −2.5 | 3.6 | −2.6 | −4.4 | 3.7 | −0.9 | −2.7 | −1.9 | |
| Norway | 7.1 | 6.1 | – | 5.1 | −0.5 | −7.1 | 3.4 | 1.3 | 2.3 | −4.4 | 1.8 |
| Sweden[b] | 6.6 | −0.8 | −3.5 | 0.2 | −7.5 | 5.7 | −1.8 | −1.0 | −1.1 | −1.1 | −0.8 |
| Switzerland | 2.0 | 5.3 | – | 3.6 | −0.9 | −0.9 | −1.8 | 0.9 | 1.8 | 2.6 | |
| United Kingdom | 3.8 | −6.7 | −4.0 | −2.5 | −2.7 | −3.0 | −2.1 | −1.0 | 0.4 | 0.6 | |
| Western Europe[c] | 5.0 | 0.1 | −2.0 | 1.0 | −2.2 | −1.9 | −0.6 | 0.2 | −0.5 | −0.4 | |
| Canada | 5.3 | −1.9 | 3.0 | −0.7 | −2.6 | – | 2.3 | 1.0 | 2.6 | −3.0 | |
| United States | 4.4 | −3.6 | 2.5 | 0.1 | −5.4 | −1.5 | 4.6 | 2.0 | 0.5 | 0.3 | −4.4 |
| North America[c] | 4.5 | −3.5 | 2.5 | – | −5.2 | −1.4 | 4.4 | 1.9 | 0.7 | – | |

*Sources:* National statistics and OECD, *Main Economic Indicators*, Paris.
[a] Seasonally adjusted.
[b] Mining and manufacturing.
[c] Weighted by 1975 industrial output in US dollars.

Community,[1] while in both the Federal Republic of Germany and the United Kingdom industrial output fell by 1–1.5 per cent in November. Thus in western Europe output has remained more or less stagnant from the last quarter of 1980 to the end of 1981.

The timing of cyclical developments in the United States have been rather different from those in western Europe. After the 1974/75 recession, which was quite closely synchronized on both sides of the Atlantic, the recovery of output was much stronger in the United States: it continued from 1976 until the first quarter of 1979, whereas in western Europe it was broken by the mini-recession of 1977. In the

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[1] Commission of the European Communities, *European Economy*, Supplement A, No. 1, January 1982.

United States output remained virtually stagnant throughout 1979 until it fell sharply in the second quarter of 1980, and much more sharply than the fall in output in western Europe where the upswing that had started in the beginning of 1978 had just come to an end in the wake of the second oil price shock. However, the American recession was much shorter than the European and in the last quarter of 1980 United States output rose very strongly and much more than expected. This recovery continued into the first quarter (also more strongly than expected) but a new downturn began in the second quarter partly under the influence of persistently high real rates of interest. In western Europe output was declining through most of 1980 and this, together with rising unemployment levels, deterred most European authorities from following the sharp rise in United States' interest rates in the second half of the year. However, this meant that by the beginning of 1981, when a hesitant recovery of output was just beginning, a fairly large interest rate differential had opened up in favour of the United States. Given the large external deficit for western Europe as a whole and the persistence of high rates of inflation, a rise in European interest rates became unavoidable. Unlike the aftermath of the first oil shock, positive real interest rates emerged in 1981 and this is an important reason why the recovery of output in Europe has been so slow and hesitant.

It is frequently stated that the present recession is less severe than that which followed the first oil price shock of 1973/74 and it is indeed the case that whereas GDP and industrial production fell by 1.2 and 6.5 per cent respectively in 1975, they "only" declined by 0.4 and 2 per cent in 1981 (although when this favourable comparison between the two cycles was being made in 1980 the general expectation was for a *rise* in 1981 output). However, comparing single years ignores differences in the shape of the two downturns: if instead the averages of the two recession years are compared with their previous peaks, the difference between the two downturns is much less marked. Thus, putting the peak years at 100, west European GDP changes are as follows:

| *First oil shock* | *Second oil shock* |
|---|---|
| 1973 = 100 | 1979 = 100 |
| 1974 = 102.0 | 1980 = 101.6 |
| 1975 = 100.8 | 1981 = 101.2 |
| 1976 = 105.4 | 1982 = 102.7* |

And for industrial production:

| *First oil shock* | *Second oil shock* |
|---|---|
| 1973 = 100 | 1979 = 100 |
| 1974 = 101.1 | 1980 = 100.1 |
| 1975 = 94.5 | 1981 = 97.6 |
| 1976 = 100.9 | 1982 = 100* |

The average levels of GDP in 1974–1975 and in 1980–1981 are exactly the same in their relation to the respective peak years of 1973 and 1979. In the case of industrial production, average output in 1974–1975 was 2.2 per cent below the 1973 peak and in 1980–1981 just over 1 per cent below the level of 1979. Thus when both pairs of recession years are taken into account the present recession in output growth is as severe as the previous one in terms of the deceleration in GDP growth and only slightly milder in terms of industrial production. Moreover, the current recession promises to be much longer than the previous one: the figures given above also include the first years of recovery from each recession or, at least, the presumed year of recovery in the case of 1982 for which the estimate is based on current national forecasts. The growth rates for 1982, which are subject to considerable uncertainty and may yet again be threatened by a further upsurge of interest rates, are only about a third of those which were experienced in 1976. In 1976 GDP and industrial production had passed their 1973 peaks by over 5 per cent and 1 per cent respectively; GDP in 1982 is likely to surpass its 1979 level by some 3 per cent at most and industrial production might just regain it.

The comparison between the two recessions is slightly modified if it is based on quarterly data for industrial production: then the drop in output, from peak to trough, is generally much sharper in the first recession than in the second (although the reverse is the case in the United Kingdom), but the length of the first recession is much shorter and recovery was much faster. For western Europe as a whole industrial production dropped 10 per cent in the four quarters from the second quarter of 1974 to the second quarter of 1975; between the first and fourth quarters of 1980 it fell 5 per cent but then showed no significant recovery through the four quarters of 1981.

The severity of the recession following the second oil shock also has to be appreciated against the background of the much lower rates of output growth and capacity utilization after 1973. Real GDP growth in western Europe (13 countries) between 1968 and 1973 averaged about 5 per cent a year; between 1974 and 1979 it was just under half the previous rate—even in the year of recovery, 1979, it remained under 4 per cent. Consequently, when output growth peaked in 1979 there were still large amounts of unutilized capacity in western Europe. This is shown in the following table which is drawn from the estimates of potential output in manufacturing industry, given below in section 1.1 (vii):

**Rates of capacity utilization in manufacturing industry, 1973–1981**
(*Percentages*)

| | *1973* | *1979* | *1974–1975* | *1980–1981* |
|---|---|---|---|---|
| Austria[a] | 102 | 89 | 95 | 87 |
| Finland | 101 | 91 | 98 | 95 |
| France[a] | 96 | 78 | 90 | 73 |
| Germany, Fed. Rep. of | 98 | 92 | 91 | 87 |
| Italy | 97 | 92 | 87 | 92 |
| Norway[b] | 100 | 88 | 100 | 84 |
| Sweden | 98 | 83 | 98 | 80 |
| United Kingdom | 95 | 90 | 93 | 80 |

*Source:* Section 1.1 (vii) of this *Survey.*

[a] Includes mining.

[b] Includes mining and construction but excludes oil and gas extraction.

TABLE 1.1.3

**Changes in the volume of domestic demand, including and excluding stockbuilding**
*(Annual percentage change)*

| | *Including stockbuilding* | | | | *Excluding stockbuilding* | | | |
|---|---|---|---|---|---|---|---|---|
| *Country* | *1979* | *1980* | *1981* | *1982* | *1979* | *1980* | *1981* | *1982* |
| Austria | 5.5 | 2.7 | −2.9 | 1.3 | 3.7 | 1.7 | 0.2 | 0.6 |
| Belgium | 3.1 | 1.8 | .. | .. | 2.7 | 2.4 | .. | .. |
| Denmark | 2.6 | −4.5 | −3.5 | 3.2 | 2.3 | −3.7 | −3.2 | 2.7 |
| Finland | 9.4 | 5.6 | −1.5 | 1.0 | 3.9 | 4.8 | 0.8 | 1.0 |
| France | 4.4 | 2.2 | −0.9 | 3.2 | 3.3 | 2.2 | 0.8 | 2.5 |
| Germany, Federal Republic of | 5.8 | 1.7 | −2.5 | – | 4.5 | 2.4 | −1.0 | −1.0 |
| Ireland | 7.3 | −4.1 | 4.0 | −1.0 | 6.0 | −1.7 | 2.7 | −1.9 |
| Italy | 5.6 | 6.9 | −2.2 | 0.5 | 4.8 | 5.0 | 0.6 | 0.5 |
| Netherlands | 1.2 | −0.7 | −4.0 | −0.5 | 1.4 | −0.8 | −3.2 | −1.4 |
| Norway | 3.2 | 5.0 | 0.6 | 2.7 | 0.3 | 2.3 | 5.1 | 1.1 |
| Sweden | 5.9 | 2.7 | −2.8 | −1.0 | 3.8 | 1.3 | −1.4 | −1.6 |
| Switzerland | 4.4 | 5.4 | −1.3 | −1.1 | 2.2 | 4.2 | 1.3 | −0.4 |
| United Kingdom | 3.8 | −2.6 | −1.8 | 3.1 | 3.2 | 0.4 | −1.5 | 0.7 |

*Sources:* As for appendix table.

TABLE 1.1.4

**Changes in the supply and use of resources in industrial western Europe,[a] 1979–1982**
*(Annual percentage changes, in volume)*

| | *1979* | *1980* | *1981* | *1982* |
|---|---|---|---|---|
| GDP, at market prices | 3.6 | 1.6 | −0.4 | 1.5 |
| Imports of goods and services | 10.4 | 3.6 | −2.3 | 4.0 |
| Total resources | 5.1 | 2.0 | −0.8 | 2.2 |
| Total domestic demand, including stocks | 4.7 | 1.8 | −1.8 | 1.3 |
| Gross fixed capital formation | 4.0 | 3.0 | −2.9 | −1.0 |
| Private consumption | 3.7 | 1.6 | – | 0.7 |
| Public consumption | 2.6 | 2.5 | 1.5 | 1.1 |
| Exports of goods and services | 6.2 | 2.8 | 2.7 | 4.4 |

*Source:* Appendix table.
[a] Thirteen countries, as in table 1.1.3.

The first two columns show capacity utilization in the two years of each cycle before output growth began to fall: on average, the utilization rate was about 98 per cent in 1973 and some ten points lower in 1979. The last two columns of the table show the average utilization rates for the two recession years in each cycle (see above): in 1974–1975 the average rate, for the eight European countries available, was 94 per cent or 4 points below the 1973 peak, while in 1980–1981 the average was 85 per cent, about 3 points below the rate of 1979. It should also be recalled here that unemployment rates have been rising almost continuously in western Europe since 1974 and in 1980–1981 averaged over 6 per cent compared with a little under 3 per cent in 1974–1975. Thus from the perspective of resource utilization the present recession is clearly much more severe than the previous one.

All the principal components of demand weakened in 1981 although the volume of exports of goods and services held up rather better than had been expected at the beginning of the year, but investment and stocks both fell more than forecast. At the beginning of last year most national forecasts anticipated only a fairly minor impact of stocks on domestic demand (half a percentage point or less), but high interest rates, slower than expected growth of private consumption, and the general delay in the recovery of output all encouraged a larger scale of de-stocking. This affected domestic demand negatively in all countries of western Europe except Ireland (table 1.1.3) and in many cases the impact was large (some 3 to 4.5 percentage points in Austria, Italy, Norway and Switzerland). Part of the difference between countries reflects differences in cyclical timing: the smaller countries (Austria and Switzerland, for example) generally lag behind the larger ones, while in the United Kingdom most of the very severe downswing in stocks occurred in 1980. The reversal of de-stocking is expected to be one of the supports of recovery in 1982[2] and should add between a half

TABLE 1.1.5

**Contributions to the change in real GDP in the four major west European countries combined,[a] 1973–1976 and 1979–1982**
*(Percentage of GDP in previous year)*

| | *1973* | *1974* | *1975* | *1976* | *1979* | *1980* | *1981* | *1982* |
|---|---|---|---|---|---|---|---|---|
| Private consumption . . . . . | 2.8 | 0.5 | 1.0 | 2.1 | 2.4 | 1.2 | – | 0.6 |
| Public consumption . . . . . | 0.7 | 0.5 | 0.8 | 0.4 | 0.4 | 0.4 | 0.8 | 0.2 |
| Gross domestic fixed capital formation . . . . . | 0.9 | −0.9 | −1.0 | 0.7 | 1.2 | 0.7 | −0.6 | −0.2 |
| Stock changes . . . . . . . . | 1.6 | −0.2 | −2.6 | 2.0 | 1.0 | −0.2 | −1.7 | 0.9 |
| Exports of goods and services . . | 2.3 | 2.3 | −0.8 | 2.3 | 1.5 | 0.3 | 0.3 | 1.4 |
| Imports of goods and services . . | 2.0 | 0.7 | −0.9 | 2.5 | 2.8 | 0.7 | −0.7 | 1.3 |
| Statistical discrepancy[b] . . . . | −0.4 | – | 0.4 | – | −0.1 | −0.3 | 0.1 | 0.2 |
| Total change in GDP . . . . . | 5.9 | 1.5 | −1.3 | 5.0 | 3.6 | 1.4 | −0.4 | 1.8 |

*Sources:* National statistics and appendix table.

[a] France, Federal Republic of Germany, Italy and the United Kingdom.

[b] This arises from the use of fixed dollar weights (1973 for the first cycle and 1979 for the second) for combining the four countries and from rounding.

and one percentage point to the growth of domestic demand. In the United Kingdom the positive impact in 1982 is much larger and is the main source of the expected recovery in GDP.

Private consumption was generally very weak in 1981 as a result of nominal income growth falling faster than inflation, higher taxes in some countries, and rising unemployment. Private consumption actually declined in a number of countries (Belgium, Denmark, the Federal Republic of Germany, the Netherlands and Sweden) and elsewhere tended to range between increases of zero and 1 per cent. The increase was a bit larger in France where measures to raise social benefits and the incomes of the lower paid helped to support consumption in the second half of the year. Public consumption also grew more slowly in 1981 than in 1980 (except in Austria and Norway) and in the majority of west European countries rose by less than 2 per cent as governments sought to reduce public deficits by cutting the growth of expenditure. Compared with the 1974–1975 recession both private and public consumption have been weaker in the present recession, mainly because of the different policy responses to the second rise in oil prices and the attempts to strike a better balance between fiscal and monetary policy in the context of a firmer commitment to reduce inflation. The deceleration in the growth of public consumption is expected to continue in 1982 but private consumption should show some increase as real incomes are expected to improve.

Fixed investments in western Europe fell by nearly 3 per cent in 1981, much more than was expected at the beginning of the year, although the fall in the present recession is still rather less than in 1974–1975. However, the present decline should be seen against the fact that annual rates of investment since 1975 have been very much lower than those prevailing before 1973 (see below, section 1.1.(vii)). A further decline of fixed investment is expected in 1982, but the outcome could be worse than currently forecast if real interest rates remain high or increase further. Construction has been particularly hard hit by the combination of recession, public expenditure cuts, and high interest rates, although investment in machinery and equipment was also weak or falling last year (for a number of countries in the Appendix table it is not possible to separate the two).

At the beginning of 1981 the national forecasts implied virtual stagnation of imports and export growth of some 1 per cent for western Europe as a whole. In the event the failure of output to recover significantly and a larger amount of de-stocking than expected produced a fall of 2.3 per cent in the volume of imports of goods and services into western Europe: there was an absolute fall in volume, of between 1 and 7 per cent, in all west European countries except Ireland and the Federal Republic of Germany. Although slightly less than in 1980, export growth in 1981 was stronger than expected mainly because of a rapid increase of imports by the member countries of OPEC in the first half of the year. Export performance was particularly strong in Austria, Denmark and the Federal Republic of Germany (in the latter country, exports of goods and services rose 8.5 per cent), but elsewhere in Europe it tended to be rather weaker. These inter-country differences in performance reflect in large measure the lagged response to previous changes in competitiveness and, particularly, in exchange rates. Thus, in general, real trade balances improved and made a positive contribution to output in 1981: the exceptions were Norway and the United Kingdom, both affected by the decline in demand for oil, and Ireland where, under the influence of expansionary policies and declining competitiveness, imports accelerated and export growth fell sharply. In 1982 export volume growth is expected to be a little more than 4 per cent with a deceleration in the rate of growth to OPEC countries being offset by a recovery of intra-European trade, as activity picks up, and by increased exports to the newly industrializing

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[2] The forecasts for 1982 referred to in this section are mainly national and official, and have been aggregated by the secretariat (table 1.1.4). For details and sources see the appendix table.

developing countries. At the same time the recovery of output and, especially, of stock-building will produce a sharp turnround in import growth (from a fall of 2.3 per cent to a rise of some 4 per cent) so that the net impact of the real current balance on output, although still positive, will be less than in 1981.

The relative contributions of these various components of demand to the change in GDP in the four major west European economies are summarized, for both the 1974/75 and the current recession, in table 1.1.5. Although the falls in fixed capital formation and in stocks in the current recession have been greater than previously expected, they have dropped less than in 1974–1975. This may be due in part to the more favourable liquidity position of the corporate sector in the second recession as well as to a relatively smaller build-up of stocks in 1979: the fall in output was not so sudden, and commodity prices rose much less than in 1973 and there was not the same speculative build-up of stocks. However, although the fall in fixed investment has been less than in 1974/75, its cyclical downturn looks as though it will be longer: in 1976 it contributed to the recovery of output but current forecasts are for a further decline in 1982. Another important difference between the two periods is in the strength of consumption: private consumption has been weaker in the current recession and in 1982, given a slow growth in real incomes, is expected to recover a lot more slowly than it did in the upturn of 1976.

### (ii) Foreign trade and balance of payments

*Trade volumes*

The deceleration in the volume growth of developed market economy trade in 1980 and the subsequent decline in the level in the first three quarters of 1981 broadly paralleled similar developments in world trade. The volume of world exports declined by about 3 per cent in the first three quarters of 1981 relative to the same period in 1980.[3] This compares with growth of nearly 7.5 per cent in 1979 and 2 per cent in 1980. Taking a longer term perspective, the decline in trade in 1981 would be the only decline in world trade volume in more than twenty years, apart from the fall in 1975 following the first round of oil price increases. This sharp slowdown in the growth of world trade is the result of the second round of increases in the price of crude oil[4] and the policy response to these increases in the oil-importing developed market countries (see section 1.1(viii)).

Through their deflationary impact on demand and output, the recent western macro-economic policies have led, initially to decelerating rates and, more recently, to declining levels of trade volume between the developed market economies themselves, as well as their imports from the rest of the world. Similarly, economic conditions have not been uniformly favourable in the other major trading regions in the world as to offer strong possibilities for export led growth in the developed market economies.

Apart from the Soviet Union, which increased its imports rapidly in the first nine months of 1981, exports to the centrally planned economies stagnated or declined during the year. In most of these countries the demand for imports from the developed market economies was constrained by balance-of-payments considerations as their current account deficits with the convertible currency area showed the impact of rising interest rates, weakening western demand for their exports and (in the case of Poland) shortages in the supply of exportables (see chapter 3.6(ii)).

Although the imports of certain oil importing developing countries have remained buoyant, particularly those in some of the newly industrializing countries and those self-sufficient in energy, other countries have had to control import demand closely in the light of their increasing external debt, balance of payments difficulties, and the continuing downward pressure on non-oil commodity prices.

Thus the only major trading region which has been in a position (as a result of the earlier oil price increases) to provide a large and growing market for the developed market economies has been OPEC. OPEC imports increased very rapidly in real terms in the first half of 1981, but uncertainties arise regarding their future development. On the one hand, OPEC revenues may, for several reasons decline faster than has been anticipated. Firstly, oil consumption has had a tendency to decline faster than had been expected on the basis of output trends in the developed market economies and oil price developments. Secondly, the downward adjustment of official oil prices has continued. Thirdly, the diminished prospects for growth in the west may lead to a lower rate of recovery of oil demand than has been anticipated. Finally, the domestic expenditures plans of some OPEC members remain uncertain, which in turn makes any estimates of their import demand subject to a large margin of error.

In these circumstances, and taking into account the short term economic perspectives for the developed market economies offered in section 1.1(viii), a quick recovery in the growth of developed market economy trade is most unlikely. Indeed, the volume of their exports in all of 1981 was quite likely below the level in 1980 and may well remain sluggish into 1982.

During the first three quarters of 1981 the volume of *west European exports* declined (table 1.1.6). Export growth in that region had accelerated through 1979 when it reached a rate of 7 per cent and then decelerated to 2 per cent per year in 1980, achieving a peak in the level of volume in the first half of that year (chart 1.1.1). The volume of exports has remained generally lower and flat since, the only

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[3] This is based on the latest figures in United Nations, *Monthly Bulletin of Statistics*, January 1982. However, these still incorporate many estimates and should be regarded as provisional. Estimates of volume changes also carry a large margin of error particularly for periods when there have been large price changes. Hereafter, growth rates for the first three quarters of 1981 are always presented with respect to the same period in 1980.

[4] The second round began at the end of 1978 and raised the OPEC average price of oil from $13.79 per barrel in the first quarter of 1979 to $36.20 in the first quarter of 1981 (also see section on commodity prices below).

TABLE 1.1.6

**Changes in the volume of developed market economies trade**
(*Percentage change over previous year*)

| | *Exports* | | | | | *Imports* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *1977* | *1978* | *1979* | *1980* | *Jan.–Sept. 1981* | *1977* | *1978* | *1979* | *1980* | *Jan.–Sept. 1981* |
| Developed market economies | 5 | 6 | 7 | 5 | – | 4 | 5 | 8 | −2 | −4 |
| *of which:* | | | | | | | | | | |
| Western Europe | 5 | 6 | 7 | 2 | −1 | 3 | 3 | 11 | 1 | −5 |
| North America | 3 | 11 | 8 | 5 | −1 | 9 | 7 | 3 | −7 | 1 |
| Japan | 9 | 1 | −1 | 17 | 13 | 2 | 7 | 11 | −6 | −3 |

*Sources:* United Nations, *Monthly Bulletin of Statistics*, New York, January 1982. *Monthly Statistics of Japan*, Tokyo, December 1981.

exception coming in the second quarter when exports briefly rebounded to the maximum level of the previous year. In *North America*,[5] the development has been somewhat different as export growth peaked already in 1978 at 11 per cent per year and decelerated thereafter to a rate of 5 per cent in 1980. As in western Europe the level of exports also peaked in the first half of 1980. Subsequently, the volume of exports remained at about the same level until the first quarter of 1981 when a sharp drop-off took place (chart 1.1.1). In both western Europe and North America, exports were down about 1 per cent in the first three quarters of 1981 relative to the same period in the previous year.

In the developed market economies, the growth of *import* volume decelerated sharply, from positive to negative rates between 1979 and 1980, and then fell further at a rate of 4 per cent in the first three quarters of 1981 (table 1.1.6). In both *North America* and *western Europe* import volumes had peaked in 1979 (in the third and fourth quarters respectively—chart 1.1.1). In the former, they recovered after a four quarter decline and more or less levelled off in 1981 at some 6 per cent below the level reached in 1979. In western Europe, the decline was longer—5 quarters—but a gradual rise has taken place during the second and third quarters.

### *Regional trade by origin and destination*[6]

In the first three quarters of 1981 *North American exports*, in volume terms, increased only in trade with the Soviet Union and OPEC, and declined in trade with all other regions (table 1.1.7). The small rise registered in the volume of the region's *imports* during the same period was fairly broadly based, originating in China, Japan, eastern and western Europe and the non-oil developing countries. However, imports from OPEC and the Soviet Union dropped off. Intra-trade, in this case trade between Canada and the United States, made a positive contribution to total North American trade by increasing some 6–7 per cent in real terms.

Regarding the volume of *industrial western Europe's*[7] *exports* in the first three quarters of 1981 (table 1.1.8), particularly large positive increments were recorded in exports to the oil exporting countries and Australia, and, to a lesser extent, to North America, the non-oil developing countries, the Soviet Union, Japan and China. Only exports to eastern Europe declined. *Import* volumes fell (or were stagnant) from all trading regions, particularly from North America and the oil exporting countries. Industrial western Europe's intra-trade also declined, perhaps by as much as 5 per cent in volume terms.

Domestic economic activity in western Europe was supported through the second quarter of 1981 by the expansion of the export volume relative to imports. However, the preliminary data used here indicate that there was a sharp reversal in this trend in the third quarter. In North America, on the other hand, this had been a significant source of stimulation to about the middle of 1980, when the growth of exports began to flag while imports increased steadily. A further acceleration in this trend occurred in the third quarter of 1981.

*Import price* increases in the developed market economies accelerated in 1980 following further oil prices increases (table 1.1.9). However, non-oil commodity prices had been declining and, by the middle of 1981, the oil market weakened. This general softening in prices, along with the appreciation of the US dollar, is reflected in the figures for the first three quarters of 1981. On the other hand, *export price* growth slowed a bit in 1980, and somewhat more in 1981 as competitive pressures increased and cost increases decelerated. However, as was the case with imports, dollar appreciation was the main cause of the decline in prices in dollar terms. As a result of these price movements, the *terms of trade* (table 1.1.10) of the developed market economies fell again in 1980, but appeared to have bottomed-out by the third quarter of 1981.

### *Trade and current account balances*

The interplay between trade volumes and the terms of trade development is reflected in the *crude*

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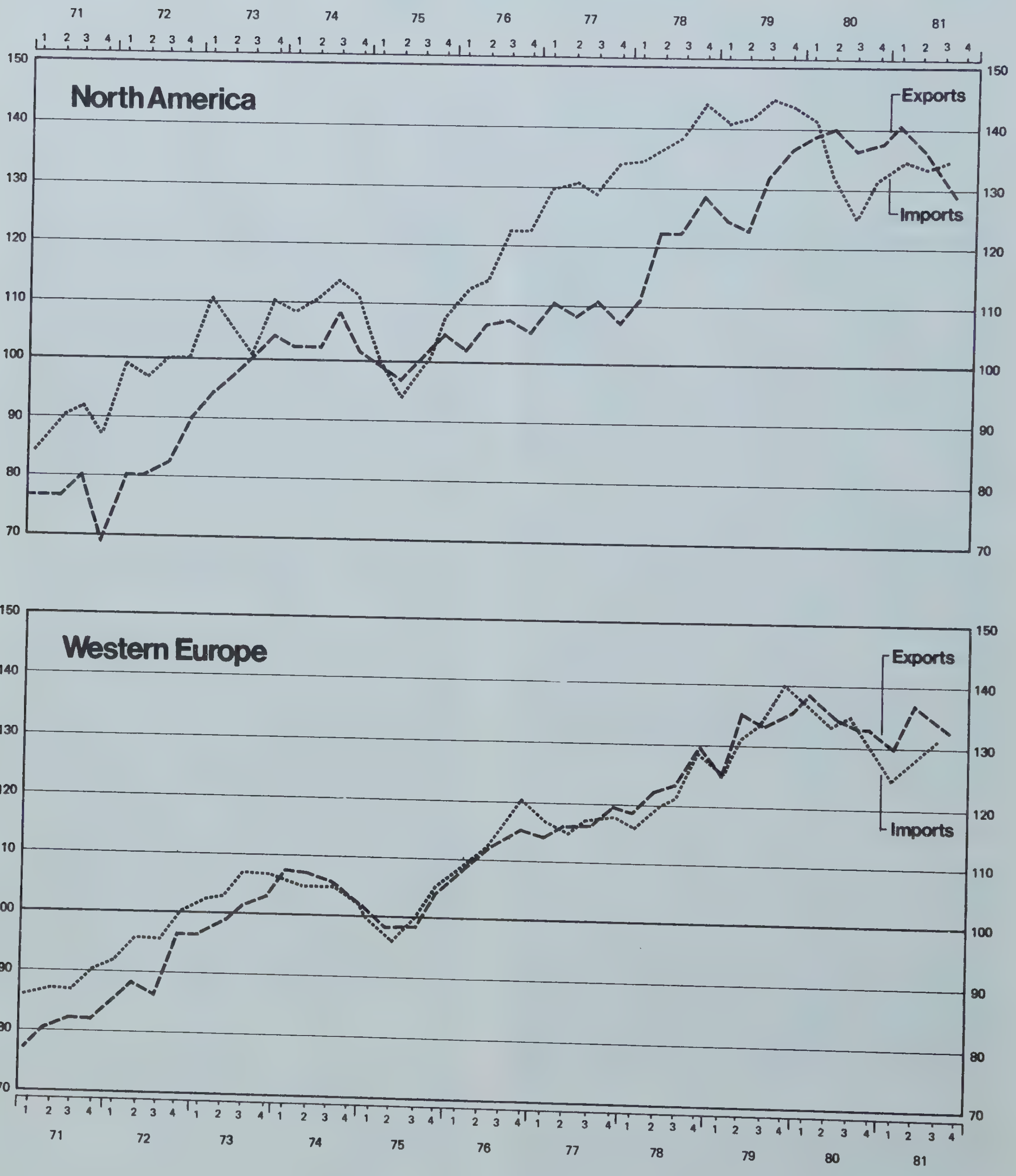
[5] In North America, the United States accounts for about 79 per cent of total trade turnover while Canada accounts for the remaining 21 per cent.

[6] This rather qualitative discussion is based upon the changes in trade values in tables 1.1.7 and 1.1.8 which were deflated by various price indices to get indications of volume flows. Countries are listed roughly in the decreasing order of the magnitude of the change in bilateral trade rather than by its impact on the economy of the region in question.

[7] Western Europe less southern Europe (Greece, Portugal, Spain and Turkey).

CHART 1.1.1

**International trade volumes in western Europe and North America**
*(1975 = 100)*



*Source:* United Nations, *Monthly Bulletin of Statistics*, seasonally adjusted by the secretariat.

TABLE 1.1.7

**North America's trade by area of origin and destination, January–September 1981**

| *Country or area of origin for imports and destination for exports* | *Imports c.i.f. (billion US dollars)* | *Exports f.o.b. (billion US dollars)* | *Percentage change in dollar value from January–September 1980* | | *Trade balance (f.o.b.–c.i.f.) (billion US dollars)* | *Change in trade balance from January–September[a] 1980 (billion US dollars)* |
|---|---|---|---|---|---|---|
| | | | *Imports* | *Exports* | | |
| North America | 70.0 | 64.8 | 14 | 16 | −5.1 | 0.4 |
| Rest of the world: | | | | | | |
| Industrial western Europe | 42.8 | 49.9 | 8 | −6 | 7.1 | −6.7 |
| Southern Europe | 2.5 | 5.2 | 18 | −1 | 2.6 | −0.5 |
| Soviet Union | 0.3 | 2.5 | −14 | 51 | 2.2 | 0.9 |
| Eastern Europe | 1.1 | 1.9 | 19 | −11 | 0.7 | −0.4 |
| Japan | 31.9 | 18.7 | 21 | 2 | −13.2 | −5.2 |
| Australia, New Zealand and South Africa | 5.2 | 7.5 | −9 | 33 | 2.3 | 2.4 |
| China | 1.7 | 3.3 | 81 | 5 | 1.6 | −0.6 |
| Non-oil developing countries | 55.0 | 52.8 | 8 | 10 | −2.3 | 0.5 |
| Oil exporting countries[b] | 43.7 | 17.2 | −1 | 27 | −26.5 | 4.1 |
| World (including unspecified) | 256.7 | 228.3 | 9 | 8 | −28.4 | −5.0 |

*Sources:* IMF, *Direction of Trade*, Washington, December 1981; OECD, *Statistics of Foreign Trade*, Paris, December 1981.

[a] A positive change indicates an increase in the trade surplus or a reduction in the deficit.

[b] Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Oman, Qatar, Saudi Arabia, United Arab Emirates, Venezuela.

TABLE 1.1.8

**Industrial western Europe's[a] trade by area of origin and destination, January–September 1981**

| *Country or area of origin for imports and destination for exports* | *Imports c.i.f. (billion US dollars)* | *Exports f.o.b. (billion US dollars)* | *Percentage change in dollar value from January–September 1980* | | *Trade balance (f.o.b.–c.i.f.) (billion US dollars)* | *Change in trade balance from January–September[b] 1980 (billion US dollars)* |
|---|---|---|---|---|---|---|
| | | | *Imports* | *Exports* | | |
| Industrial western Europe | 273.4 | 275.2 | −16 | −16 | 1.8 | −1.1 |
| Rest of the world: | | | | | | |
| Southern Europe | 13.1 | 20.3 | −14 | −6 | 7.3 | 1.0 |
| North America | 41.3 | 26.2 | −10 | 1 | −15.0 | 5.0 |
| Soviet Union | 13.6 | 9.4 | −3 | −1 | −4.1 | 0.3 |
| Eastern Europe[c] | 8.6 | 8.8 | −19 | −16 | 0.2 | 0.4 |
| Japan | 13.3 | 4.6 | 7 | −3 | −8.7 | −1.0 |
| Australia, New Zealand and South Africa | 6.2 | 7.2 | −8 | 12 | 0.9 | 1.2 |
| China | 1.8 | 1.7 | −2 | −5 | −0.1 | −0.1 |
| Non-oil developing countries | 38.4 | 41.1 | −13 | 0 | 2.7 | 5.7 |
| Oil exporting countries[d] | 62.6 | 37.7 | −7 | 14 | −24.9 | 9.3 |
| World (including unspecified) | 475.4 | 442.0 | −13 | −10 | −33.4 | 21.1 |

*Sources:* IMF, *Direction of Trade*, Washington, December 1981; OECD, *Statistics of Foreign Trade*, Paris, December 1981.

[a] Western Europe less southern Europe; excluding the United Kingdom.

[b] A positive change indicates an increase in a trade surplus or a reduction in a deficit.

[c] Excluding trade between the Federal Republic of Germany and the German Democratic Republic.

[d] Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Oman, Qatar, Saudi Arabia, United Arab Emirates, Venezuela.

*trade balances* (*f.o.b.–c.i.f.*). The dominant impact of the oil price rise on western Europe is seen in the widening of the crude trade deficit from some $23 billion in 1978 to $107 billion in 1980[8, 9] (table 1.1.11). Although southern Europe is treated in a separate chapter, it is interesting to note that this region, which accounts for less than 7 per cent of total European trade (exports plus imports), bore nearly a third of the total west European trade deficit.

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[8] It should be noted that there is a substantial difference in trade balances calculated on a *f.o.b.–c.i.f.* (crude trade balances) and a *f.o.b.–f.o.b.* basis. The difference between the two, the insurance and transport costs of imports, was about $70 billion in 1981 in the developed market economies.

[9] In the same period the trade deficit (*f.o.b–f.o.b.*) of the non-oil developing countries increased from $23 billion to $60 billion. The counterpart of these changes was a sharp rise in the trade surplus of the oil exporting countries to $169 billion in 1980, more than treble the surplus in 1978.

### TABLE 1.1.9

**Growth rates of foreign trade prices (in terms of US dollars)**
*(In percentages, relative to corresponding period in the previous year)*

| | *1977* | *1978* | *1979* | *1980* | *Jan.–Sept. 1981* |
|---|---|---|---|---|---|
| *Export prices* | | | | | |
| Developed market economies | 9 | 13 | 15 | 13 | −4 |
| *of which:* | | | | | |
| North America | 2 | 6 | 15 | 14 | 10 |
| Western Europe | 10 | 15 | 17 | 13 | −11 |
| Japan | 11 | 20 | 5 | 9 | 7 |
| *Import prices* | | | | | |
| Developed market economies | 9 | 10 | 19 | 21 | −2 |
| *of which:* | | | | | |
| North America | 7 | 8 | 16 | 25 | 7 |
| Western Europe | 10 | 13 | 19 | 18 | −7 |
| Japan | 7 | 5 | 24 | 36 | 5 |

*Source:* As for table 1.1.6.

### TABLE 1.1.10

**Terms of trade**
*(1975 = 100)*

| | *1977* | *1978* | *1979* | *1980* | *Jan.–Sept. 1981* |
|---|---|---|---|---|---|
| Developed market economies | 98 | 100 | 97 | 90 | 88 |
| *of which:* | | | | | |
| Western Europe | 99 | 101 | 100 | 95 | 91 |
| North America | 97 | 94 | 93 | 85 | 87 |
| Japan | 99 | 113 | 96 | 77 | 77 |

*Source:* As for table 1.1.6.

### TABLE 1.1.11

**Crude trade balance**
*(f.o.b.–c.i.f., in millions of US dollars)*

| | *1978* | *1979* | *1980* | *1981*[a] |
|---|---|---|---|---|
| Developed market economies | −43 | −105 | −149 | −96 |
| *of which:* | | | | |
| Western Europe | −23 | −61 | −107 | −66 |
| *of which:* | | | | |
| Industrial western Europe[b] | −4 | −36 | −74 | −33 |
| Southern Europe[c] | −19 | −25 | −33 | −33 |
| North America | −37 | −36 | −31 | −38 |
| *of which:* | | | | |
| United States | −39 | −37 | −36 | −40 |
| Japan | 18 | −8 | −11 | 8 |

*Sources:* IMF, *Direction of Trade Statistics*, Washington, Yearbook 1981 and January 1982; OECD, *Statistics of Foreign Trade*, Paris, January 1982. Press reports.

[a] The 1981 estimates are based upon recent reports of trade results for the full year 1981. However, for those countries for which full year results were not yet available, balances were estimated by projecting the growth rates calculated using the period available relative to the same period in 1981.

[b] Western Europe less southern Europe.

[c] Greece, Portugal, Spain, Turkey, Yugoslavia.

In 1980 the relative export volume growth in *North America* was strong enough to offset the terms of trade loss and the crude trade deficit declined. In 1981, declining relative export volumes in conjunction with roughly constant terms of trade led to a widening trade deficit. In *western Europe*, on the other hand, the ratio of export to import volumes was more or less constant in 1980, so that the widening of the trade deficit was due largely to the deterioration in the terms of trade. The large improvement in the trade deficit seen in 1981 is due completely to the relative growth of exports since the terms of trade were still weakening.

For the developed market economies as a whole, the estimate of the crude trade balance in 1981 of $96 billion indicates a reduction of some $53 billion relative to the 1980 deficit of $149 billion. If this crude trade deficit of $96 billion for the developed market economies is adjusted to an *f.o.b.–f.o.b.* basis, and to reflect the broader OECD country coverage (less Yugoslavia), the resulting trade balance is a $23 billion deficit compared to the $25 billion deficit forecast by the OECD in the latter part of 1981.[10]

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[10] OECD, *Economic Outlook*, Paris, No. 30, December 1981, table 47.

The second round of increases in oil prices has again led to large changes in the regional pattern of *current account balances* (table 1.1.12). The major change took place in the current account surplus of the OPEC countries (including net official transfers) which had been virtually eliminated by 1978, but since then has increased to $110 billion in 1980. However, given the slowdown in western economic activity and the unexpectedly rapid decline in oil demand, together with an acceleration of the oil exporters' import growth (albeit at rates below those of 1973 to 1976), the OPEC surplus has fallen quickly—to about $60 billion in 1981. Assuming that the nominal price of oil will remain unchanged to the end of 1982 (implying a decline in the real price) and that OECD exports to OPEC continue to grow (although at a reduced rate from that of the first half of 1981) the OPEC surplus may be reduced to some $35 billion in 1982.[11]

The change in the current account balance of the *developed market economies* between 1978 and 1980 was also significant since it went from a $14 billion surplus to a $67 billion deficit (table 1.1.13). The deficit in 1980 was concentrated largely in western Europe and Japan, the United States having moved to a small surplus from a $14 billion deficit in 1978. Moreover a large portion of the deterioration of the western current account since 1978 has taken place in countries which were then in surplus, in particular Japan and the Federal Republic of Germany. This accounts for the much less disruptive effect on international financial markets produced by the second oil price "shock" as compared with the first. Nevertheless, apart from the United States, Canada and the United Kingdom, the deterioration of current accounts was general among the developed oil importers. However, there appear to be no difficulties in financing deficits: most were largely financed by private capital flows and the Federal Republic of Germany was the only country where there was a significant drop in monetary reserves.

TABLE 1.1.12

**Balance of payments on current account,[a] by major country groups**
*(Billions of US dollars)*

| | *1978* | *1979* | *1980* | *1981*[b] |
|---|---|---|---|---|
| Total OECD countries | 10 | −33 | −73 | −35 |
| *of which:* | | | | |
| North America | −18 | −3 | 2 | 1 |
| *of which:* | | | | |
| United States | −14 | 1 | 4 | 9 |
| Western Europe[c] | 16 | −16 | −59 | −33 |
| *of which:* | | | | |
| Industrial western Europe[b] | 18 | −13 | −48 | −20 |
| Southern Europe[c,d] | −2 | −2 | −11 | −13 |
| OPEC | 4 | 62 | 110 | 60 |
| Non-oil developing countries | −23 | −38 | −60 | −68 |
| Other[e] | −9 | −4 | −1 | −5 |
| Total[f] | −18 | −13 | −24 | −48 |

*Source:* Based on OECD, *Economic Outlook*, (30), Paris: December 1981, tables 30 and 55.

[a] Including net official transfers.

[b] OECD estimates for 1981.

[c] Secretariat construction using OECD data.

[d] Greece, Portugal, Spain and Turkey.

[e] Includes Soviet Union, Eastern Europe, Yugoslavia, South Africa, Malta, Gibraltar, China and selected other Asian countries.

[f] Errors and asymmetries.

In 1981 there was a very rapid decline in the current account deficit in the developed market economies. As a consequence of the same factors which have tended to reduce the OPEC surplus (discussed above), the deficit of the developed market economies declined from some $67 billion in 1980 to an estimated $25 billion in 1981[12] (table 1.1.13). Although most of these economies realized some improvement in their current balances, the major positive changes were concentrated in a few countries: Japan, the Federal Republic of Germany, the United Kingdom, the Netherlands, the United States and Switzerland.

There is no single factor which explains the improvement in these particular countries. The rapid growth of traditional markets (Japan, the Federal Republic of Germany), improved competitiveness (the Federal Republic, the Netherlands, Switzerland and the United States—the latter still benefited from the lagged effect of rise in competitiveness in the second half of the 1970s), higher export earnings from energy (the Netherlands and the United Kingdom) and improved invisible earnings (Switzerland) have all played a role, while most countries' imports declined due to sluggish internal demand.

In 1982, the distribution of the aggregate deficit of the developed market economies is expected to continue to alter quickly, in a direction, however, which is likely to be less favourable from a financing point of view than in 1980. Current account projections made for 1982 (keeping in mind that such forecasts are subject to large margins of error) suggest that most of the large countries will either move into or remain in surplus. The Federal Republic of Germany may move into surplus in 1982 (the IFO expects a small deficit) while a large surplus is expected for Japan.[13] The Netherlands, Switzerland, the United Kingdom and the United States are also likely to record surpluses. On the other hand, some of the other smaller countries, particularly those in southern Europe, will remain in deficit, generally with not much improvement over 1980.

It may be noted that the non-oil developing countries' current account deficit is likely to remain

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[11] Based on OECD forecasts, *Ibid.*, table 27.

[12] In fact the rate of reduction in the deficit was much faster in the second half of 1981 than had been anticipated. For example, in its July *Economic Outlook*, the OECD had forecast a $63 billion deficit for 1981 in comparison with its December estimate of $35 billion for all OECD member countries.

[13] A recent study by the Sumitomo Bank forecasts Japan's current account surplus in 1981 at around $6 billion and $9.5 billion in 1982. Official Japanese government estimates (made in December 1981) are $10 billion and $12 billion respectively. The bank's lower figures reflect the sharp downturn in the growth rate of Japanese exports which began in November and seems to be continuing as Japan's export markets weaken. Taken from a summary in the *Financial Times*, 28 January 1982, p. 3.

### TABLE 1.1.13

### Current account balances, by country and country groups

*(In billions of US dollars)*

| | *1970* | *1971* | *1972* | *1973* | *1974* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *1981*[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | – | −0.1 | −0.2 | −0.4 | −0.5 | −0.3 | −1.5 | −3.0 | −1.4 | −1.9 | −3.6 | −2.8 |
| Belgium-Luxembourg | 0.7 | 0.7 | 1.4 | 1.2 | 0.6 | 0.3 | – | −0.7 | −1.0 | −3.0 | −5.2 | −6.5 |
| Denmark | −0.5 | −0.4 | −0.1 | −0.5 | −0.9 | −0.6 | −2.0 | −1.8 | −1.5 | −2.9 | −2.4 | −2.0 |
| Finland | −0.2 | −0.3 | −0.1 | −0.4 | −1.2 | −2.2 | −1.2 | −0.1 | 0.6 | −0.2 | −1.4 | −0.3 |
| France | −0.1 | 0.5 | 0.3 | −1.0 | −6.2 | −0.2 | −5.7 | −3.1 | 3.3 | 1.2 | −7.4 | −6.5 |
| Germany, Federal Republic of | 0.9 | 0.8 | 0.8 | 4.6 | 10.3 | 4.0 | 3.9 | 4.1 | 9.2 | −5.3 | −16.4 | −8.5 |
| Iceland | – | – | – | – | −0.2 | −0.1 | – | – | – | – | −0.1 | – |
| Ireland | −0.2 | −0.2 | −0.1 | −0.2 | −0.7 | – | −0.3 | −0.3 | −0.3 | −1.5 | −1.4 | −2.0 |
| Italy | 1.1 | 1.9 | 2.0 | −2.7 | −8.0 | −0.8 | −2.8 | 2.5 | 6.2 | 5.5 | −9.6 | −9.5 |
| Netherlands | −0.5 | −0.2 | 1.3 | 2.4 | 2.2 | 2.0 | 2.7 | 0.6 | −1.4 | −2.2 | −2.7 | 2.8 |
| Norway | −0.2 | −0.5 | −0.1 | −0.3 | −1.1 | −2.4 | −3.7 | −5.0 | −2.1 | −1.0 | 1.0 | 2.0 |
| Sweden | −0.3 | 0.4 | 0.6 | 1.4 | −0.6 | −0.4 | −1.6 | −2.1 | −0.3 | −2.7 | −5.3 | −3.5 |
| Switzerland | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 2.6 | 3.5 | 3.4 | 4.4 | 2.4 | −0.6 | 2.5 |
| United Kingdom | 2.0 | 2.7 | 0.6 | −2.4 | −7.7 | −2.4 | −1.6 | −0.1 | 1.8 | −1.8 | 7.5 | 14.3 |
| Industrial western Europe | 2.8 | 5.3 | 6.6 | 2.1 | −13.7 | −0.5 | −10.3 | −5.7 | 17.5 | −13.4 | −47.6 | −20.0 |
| Greece | −0.4 | −0.3 | −0.4 | −1.2 | −1.1 | −1.0 | −0.9 | −1.1 | −1.0 | −1.9 | −2.2 | −2.5 |
| Portugal | 0.1 | 0.2 | 0.4 | 0.4 | −0.8 | −0.8 | −1.3 | −1.5 | −0.8 | – | −1.0 | −1.8 |
| Spain | 0.1 | 0.9 | 0.6 | 0.6 | −3.2 | −3.5 | −4.3 | −2.5 | 1.6 | 1.1 | −5.0 | −5.8 |
| Turkey | −0.1 | – | 0.1 | 0.5 | −0.7 | −1.9 | −2.3 | −3.4 | −1.4 | −1.2 | −3.2 | −2.1 |
| Southern Europe | −0.3 | 0.7 | 0.7 | 0.3 | −5.8 | −7.1 | −8.7 | −8.4 | −1.5 | −1.9 | −11.4 | −12.2 |
| Western Europe | 2.5 | 6.0 | 7.3 | 2.4 | −19.5 | −7.6 | −19.0 | −14.1 | 16.0 | −15.3 | −59.0 | −32.2 |
| Canada | 1.1 | 0.4 | −0.4 | 0.1 | −1.5 | −4.7 | −3.9 | −4.0 | −4.3 | −4.2 | −1.6 | −7.5 |
| United States | 2.3 | −1.4 | −5.8 | 7.1 | 4.9 | 18.3 | 4.4 | −14.1 | −14.1 | 1.4 | 3.7 | 8.8 |
| North America | 3.4 | −1.0 | −6.2 | 7.2 | 3.4 | 13.6 | 0.5 | −18.2 | −18.4 | −2.8 | 2.1 | 1.3 |
| Japan | 2.0 | 5.8 | 6.6 | −0.1 | −4.7 | −0.7 | 3.7 | 10.9 | 16.5 | −8.8 | −10.7 | 5.5 |
| *Developed market economies* | 7.9 | 10.8 | 7.7 | 9.5 | −20.9 | 5.4 | −14.8 | −21.4 | 14.2 | −26.8 | −67.6 | −25.4 |

*Source:* OECD, *Economic Outlook*, Paris, No. 30, December 1981; 1970–1979 table R–13, 1980–1981 tables 30 and 31.

[a] OECD estimate.

### TABLE 1.1.14

### Indices of nominal and real[a] non-oil commodity prices

*(1975–1977 = 100)*

| | *1972* | *1973* | *1974* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *1981 Jan.–Nov.* | *1981 Nov.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Index of nominal prices (in terms of US dollars)* | | | | | | | | | | | |
| Combined index | 51 | 78 | 107 | 86 | 95 | 119 | 111 | 128 | 147 | 125 | 116 |
| Food and tropical beverages | 45 | 66 | 97 | 81 | 92 | 127 | 104 | 113 | 137 | 111 | 102 |
| *of which:* Food | 60 | 95 | 159 | 121 | 94 | 85 | 92 | 106 | 173 | 138 | 117 |
| *of which:* Wheat | 54 | 106 | 139 | 116 | 103 | 81 | 101 | 125 | 135 | 136 | 138 |
| Vegetable oilseeds and oils | 51 | 97 | 154 | 94 | 90 | 116 | 128 | 148 | 126 | 125 | 108 |
| Agricultural raw materials | 54 | 91 | 102 | 85 | 104 | 111 | 123 | 151 | 169 | 148 | 133 |
| Minerals, ores and metals | 62 | 91 | 120 | 98 | 98 | 104 | 111 | 143 | 162 | 142 | 139 |
| *Index of real prices*[a] | | | | | | | | | | | |
| Combined index | 85 | 110 | 124 | 89 | 98 | 112 | 92 | 92 | 96 | 87 | 83 |
| Food and tropical beverages | 75 | 93 | 113 | 84 | 95 | 120 | 86 | 81 | 90 | 77 | 73 |
| *of which:* Food | 100 | 134 | 185 | 125 | 97 | 80 | 76 | 76 | 113 | 96 | 84 |
| *of which:* Wheat | 90 | 149 | 161 | 120 | 106 | 76 | 83 | 89 | 88 | 94 | 99 |
| Vegetable oilseeds and oils | 85 | 137 | 179 | 97 | 93 | 109 | 106 | 106 | 82 | 87 | 78 |
| Agricultural raw materials | 90 | 128 | 119 | 88 | 107 | 105 | 102 | 109 | 110 | 103 | 96 |
| Minerals, ores and metals | 103 | 128 | 140 | 101 | 101 | 98 | 92 | 103 | 105 | 99 | 100 |

*Sources:* UNCTAD, *Monthly Commodity Bulletin*, Supplement 1960–1980 and various other issues; UN *Monthly Bulletin of Statistics*; and secretariat estimates.

[a] Commodity index in current dollars divided by the United Nations index (total) of export unit values of manufactured goods.

**Average import prices (c.i.f.) of crude oil in selected western countries**
*(US dollars per barrel)*

| | *Denmark* | *Germany, Fed. Rep. of* | *France* | *Italy* | *Netherlands* | *United Kingdom* | *Average* | *Oil price index* | *Real price index* [a] |
|---|---|---|---|---|---|---|---|---|---|
| Q4 1978 . . . | 13.92 | 14.04 | 14.19 | 13.29 | 13.84 | 13.83 | 13.87 | 100.0 | 100.0 |
| Q4 1979 . . . | 24.75 | 25.61 | 24.18 | 23.12 | 24.20 | 24.05 | 24.20 | 174.4 | 156.7 |
| Q4 1980 . . . | 35.24 | 35.44 | 35.25 | 33.69 | 35.16 | 34.95 | 34.92 | 251.7 | 209.2 |
| Q1 1981 . . . | 38.50 | 38.40 | 37.30 | 36.85 | 36.70 | 37.58 | 37.45 | 270.0 | 233.1 |
| Q2 1981 . . . | 37.53 | 37.38 | 37.76 | 36.82 | 37.53 | 37.51 | 37.39 | 269.5 | 242.2 |
| Q3 1981 . . . | 34.69 | 35.64 | 36.41 | 35.52 | 35.38 | 35.01 | 35.65 | 257.0 | 239.0 |

*Sources:* Press and Information Office of the EEC, *Europe*, 19 December 1981, p. 16; UN *Monthly Bulletin of Statistics*, New York; secretariat estimates.
[a] Oil price index divided by the UN export price index of manufactured goods for the developed market economies.

large, although it will probably not expand very much beyond the 1981 estimate of nearly $70 billion for the simple reason that it may prove increasingly difficult to finance. The deficit of these countries in 1980 was financed by a large increase in net foreign indebtedness, much of it short-term.

### *Commodity prices*

In 1981 the prices of oil and non-oil commodities weakened in both nominal and real terms (table 1.1.14). At the turn of the year, there are indications that these markets may continue to soften. In addition, the rate of increase of manufactured goods export prices has slowed, while the underlying production cost trends in many countries would suggest a further slowdown. Thus, on the whole, these trends imply that the role of internationally traded goods as a source of domestic inflation is diminishing. Moreover, the developed market economies have benefited recently since manufactured goods prices have been rising faster than those of commodities, which has led to the arrest in the decline in their terms of trade.[14]

### (a) *Oil prices*

After having increased more or less continuously for about two years, the nominal price of imported oil peaked in the first quarter of 1981 and then declined gradually as the market weakened further. However, for European importers the real price (see table below) continued to rise into the second quarter of 1981 as the appreciation of the US dollar led to a decline in their export prices in terms of US dollars (also see table 1.1.15).

The first indications of the softening market, in retrospect, came already in late 1980 when spot market prices of certain crudes dropped sharply, eventually falling below official OPEC prices during 1981. Although OPEC posted prices were maintained, official discounts appeared, accompanied, in some cases, by reductions of quality premia. Slowing economic activity in the west, increasing efficiency in the use of oil (and other energy)[15] accelerated by the recent real price increases and the more extensive use of other types of energy, particularly coal, all contributed to a sharp reduction in the volume of western oil imports amounting to some 10 per cent in 1980 and 7 per cent in 1981.

De-stocking has been a relatively recent factor that has been pursued in response to the current excess supply of oil in the market, to record interest rates, which have affected inventories of other commodities as well, and possibly to the low probability, given the short term economic perspectives, of inventory profits.[16] Nevertheless, in spite of the still relatively high level of inventories (185 days of imports in the OECD countries) further de-stocking is undesirable.

In October 1981, Saudi Arabia raised the price of its light crude from $32 to $34 (retroactive to 1 October) and cut its output from 9.5 to 8.5 million barrels per day in an attempt to achieve some unification of OPEC prices. Nevertheless, after a temporary rise, spot market prices continued to decline in the fourth quarter of 1981 and early 1982. Some OPEC members have taken note of these tendencies and have made limited cuts in the official prices of the lighter and heavier crudes. Looking somewhat further ahead, and taking economic prospects into account, oil prices are likely to remain

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[14] Trade prices, in US dollar terms, have also been very much influenced during the past year by the realignment of the US dollar vis-à-vis other currencies. In terms of SDRs:

| | *$/SDR (end of period)* | *Percentage change from previous period* |
|---|---|---|
| 1979 . . . . . . . . | 1.317 | −1.1 |
| 1980 . . . . . . . . | 1.275 | 3.3 |
| 1981 . . . . . . . . | 1.164 | 9.5 |
| 1981 | | |
| Q1 . . . . . . . . | 1.229 | 3.8 |
| Q2 . . . . . . . . | 1.151 | 6.8 |
| Q3 . . . . . . . . | 1.145 | 0.5 |
| Q4 . . . . . . . . | 1.164 | −1.6 |

[15] The OECD has recently estimated that oil intensity, defined as the index of primary oil consumption divided by the index of real GDP, declined 3.2 per cent between 1973 and 1976, 23.4 per cent between 1978 and 1981, or 27.6 per cent for the whole period 1973–1981. Comparable figures for energy intensity, reflecting all primary energy consumption, are 3.7, 7.9 and 14 per cent respectively. OECD, *Economic Outlook*, No. 30, December 1981, p. 50. It may be noted that the reduction in energy intensity reflects not only increases in the efficiency of energy use but also changes in the structure of output.

[16] In the past, spot market prices have tended to lead official OPEC selling prices. Accordingly, when spot prices have risen over a period, stocks would be held on to, or even increased, because of the high probability of inventory profits from subsequent increases in official prices. On the other hand, stocks would be liquidated as spot prices fell, thus reinforcing the fall, as they approached official prices and the cost of inventory maintenance (at high interest rates) exceeded the potential profits from further official price increases.

relatively stable, or possibly decline further. OPEC has announced that the prices of marker crudes would be frozen in dollar terms, which would imply a gradual decline in real prices to the end of 1982.[17] Two factors may tend to buoy the market in 1982. One is the anticipated deceleration or termination in de-stocking. Secondly, consumers may increase their demand for oil again once they have become accustomed to new levels of prices, and particularly if the present decline in real prices continues.

### (b) *Non-oil commodities*

In 1980 there was a fairly strong upturn in nominal commodity prices (in US dollars), as measured by the UNCTAD commodity price index (table 1.1.14). Much of the movement in the index was attributable, initially, to a short-lived speculative mini-boom in metals and natural rubber, and subsequently, to food—mainly sugar—and to a lesser extent, grain. Through 1981, the combined index declined steadily as commodity spot market prices, many of which are denominated in terms of US dollars, adjusted to the appreciation of that currency. But other factors acted to weaken the markets—flagging economic activity, further de-stocking in response to high interest rates, and in certain cases, an improved supply situation. As a consequence, the January–November 1981 average of the combined index declined 15 per cent relative to the 1980 average while by November 1981, prices dropped 21 per cent relative to the 1980 average, with food (in particular sugar playing a large role) and agricultural raw materials leading the decline.

On the whole, the underlying market situation would suggest a further weakening of prices. One of the main influencing factors, the strength of the prospective economic recovery remains in question at this time, as does the trend in interest rates. The possibility of a return to higher interest rates later in the year might encourage the maintenance of inventories at low levels. For the time being, it is generally expected that food prices will remain relatively stable given that a world cereal harvest record of about 1.5 billion tons is possible in the crop year 1981–1982.[18]

With respect to both oil and non-oil commodities, the external price pressures faced by the developed market economies in 1973–1974 were much more formidable than in the present period. In the last quarter of 1973 the price of oil was increased by almost 300 per cent while in 1979–1981 the rise was some 170 per cent (140 per cent in real terms[19]) which was distributed over a period of almost two and a half years. Non-oil commodity price developments provide an even sharper contrast. In 1973–1974, the UNCTAD index of nominal prices (table 1.1.14) rose by 110 per cent (or 46 per cent in real prices). During the recent cycle, on the other hand, nominal non-oil commodity prices rose by 32 per cent (1978–1980), while in real prices[19] there was hardly any upward movement at all (4 per cent).

### *Manufactured goods export prices*

In terms of national currencies, export prices of manufactured goods had accelerated for several years through 1980, after which they decelerated in the first half of 1981—in some cases rather sharply: Belgium, Canada, Switzerland and Japan (table 1.1.15). Exceptions to this pattern were the United States and possibly France, in which prices appear to have speeded up noticeably in the third quarter of 1981.[20]

Recently, export prices (again in terms of domestic currencies) have tended to rise more slowly than domestic consumer prices probably because world market conditions have become more competitive during the economic downturn and rise in unused capacity. In section 1(iv), it has been noted that the growth of nominal wages and unit labour costs in manufacturing has decelerated in many countries. This would be favourable for a further softening of export prices, unless the opportunity is taken to improve profit margins in export oriented sectors of industry.

TABLE 1.1.15

**Annual rates of change of manufactured goods export prices**
(*Percentage change from the same period in the previous year*)

| | *1978* | *1979* | *1980* | *1981 (Jan–June)* |
|---|---|---|---|---|
| | *In terms of US dollars* | | | |
| Developed market economies . | 15 | 14 | 11 | −3 |
| *of which:* | | | | |
| Western Europe . . . . | 16 | 14 | 12 | −10 |
| North America . . . . | 7 | 14 | 11 | 12 |
| Japan . . . . . . . . | 21 | 8 | 6 | 11 |
| | *In terms of national currencies* | | | |
| Belgium–Luxembourg . . . | – | 8 | 10 | 3[a] |
| Canada . . . . . . . . . | 11 | 13 | 15 | 9 |
| France . . . . . . . . . . | 6 | 9 | 11 | 9 |
| Germany, Federal Republic of . . . . . . . | 2 | 3 | 6 | 3 |
| Italy . . . . . . . . . . | 6 | 14 | 20 | 18[a] |
| Netherlands . . . . . . . | 4 | 5 | 8 | 6 |
| Switzerland . . . . . . . . | −4 | 3 | 11 | 3 |
| Japan . . . . . . . . . . | −5 | 12 | 11 | −1 |
| United States . . . . . . . | 8 | 16 | 9 | 13 |

*Source:* UN *Monthly Bulletin of Statistics*, New York, November 1981.

[a] First quarter 1981 relative to first quarter 1980.

## (iii) Labour markets

### (a) *Unemployment: recent changes and the current situation*

In western Europe, near-stagnation of employment in 1980 followed by an actual decline of well over 1

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[17] Some OPEC members have suggested that they would cut production if prices came under substantial pressure.

[18] IMF, *Survey*, January 11, 1982, p. 1. The projected increase in total cereal supplies is said to be caused by higher production possibilities in the main exporting countries.

[19] Ratio of indices of commodity prices in US dollar terms and the developed market economy index of manufactured goods export prices (also in terms of US dollars).

[20] In the third quarter of 1981, French export prices were increasing at the rate of 14 per cent relative to the third quarter of 1980.

TABLE 1.1.16

**Employment by major sector**
A = Annual changes (in thousand persons)
B = Annual percentage change

| Country and year | Total economy | | Agriculture | | Non-agricultural enterprise sector | | | | General government | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Manufacturing | | Non-manufacturing | | | |
| | A | B | A | B | A | B | A | B | A | B |
| *Austria* | | | | | | | | | | |
| 1970–1974 | 35 | 1.2 | −21 | −4.6 | 13 | 1.4 | 25 | 2.0 | 18 | 4.3 |
| 1974–1978 | 10 | 0.3 | −13 | −3.6 | −9 | −0.9 | 16 | 1.2 | 17 | 3.4 |
| 1979 | 7 | 0.2 | −10 | −3.5 | −5 | −0.6 | 12 | 0.9 | 11 | 1.9 |
| 1980 | 8 | 0.2 | −3 | −1.0 | 9 | 0.9 | −9 | −0.6 | 11 | 2.0 |
| 1981 | 15 | 0.5 | .. | .. | −20 | −2.0 | .. | .. | .. | .. |
| *Belgium*[a] | | | | | | | | | | |
| 1970–1974 | 33 | 0.9 | −9 | −5.0 | — | — | 16 | 1.1 | 26 | 3.2 |
| 1974–1978 | −22 | −0.6 | −5 | −3.8 | −50 | −4.1 | 4 | 0.3 | 28 | 3.1 |
| 1979 | 42 | 1.1 | — | — | −28 | −2.8 | 18 | 1.2 | 52 | 5.1 |
| 1980 | −3 | −0.1 | −6 | −5.1 | −20 | −2.1 | 3 | 0.2 | 20 | 1.9 |
| 1981 | −86 | −2.3 | .. | .. | .. | .. | .. | .. | .. | .. |
| *Denmark* | | | | | | | | | | |
| 1970–1974 | 10 | 0.4 | −10 | −3.7 | −10 | −1.7 | — | — | 29 | 5.4 |
| 1974–1978 | 30 | 1.3 | −3 | −1.3 | −6 | −1.1 | 10 | 1.1 | 29 | 4.4 |
| 1979 | 28 | 1.1 | −7 | −3.3 | — | — | 18 | 1.9 | 18 | 2.3 |
| 1980 | — | — | .. | .. | −14 | −2.6 | .. | .. | .. | .. |
| 1981 | −34 | −1.4 | .. | .. | −30 | −5.8 | .. | .. | .. | .. |
| *Finland* | | | | | | | | | | |
| 1970–1974 | 15 | 0.7 | −25 | −5.5 | 16 | 3.2 | 9 | 1.0 | 15 | 5.1 |
| 1974–1978 | −32 | −1.4 | −19 | −5.4 | −11 | −2.0 | −17 | −1.8 | 16 | 4.4 |
| 1979 | 38 | 1.8 | −4 | −1.4 | 19 | 3.6 | 9 | 1.0 | 14 | 3.3 |
| 1980 | 46 | 2.1 | −1 | −0.5 | 22 | 4.1 | 10 | 1.1 | 16 | 3.6 |
| 1981 | 32 | 1.5 | — | — | 17 | 3.0 | 6 | 0.7 | 9 | 2.0 |
| *France* | | | | | | | | | | |
| 1970–1974 | 150 | 0.7 | −133 | −4.9 | 66 | 1.2 | 146 | 1.6 | 71 | 2.5 |
| 1974–1978 | 43 | 0.2 | −66 | −3.0 | −83 | −1.4 | 132 | 1.4 | 59 | 1.9 |
| 1979 | 11 | 0.1 | −29 | −1.5 | −97 | −1.7 | 129 | 1.3 | 8 | 0.2 |
| 1980 | 55 | 0.3 | −26 | −1.4 | −77 | −1.4 | 137 | 1.3 | 20 | 0.6 |
| 1981 | −190 | −0.9 | .. | .. | −181 | −3.3 | .. | .. | .. | .. |
| *Germany, Fed. Rep. of* | | | | | | | | | | |
| 1970–1974 | −104 | −0.4 | −95 | −4.2 | −122 | −1.2 | — | — | 116 | 3.9 |
| 1974–1978 | −244 | −0.9 | −69 | −3.6 | −190 | −2.0 | −35 | −0.3 | 50 | 1.5 |
| 1979 | 338 | 1.4 | −50 | −3.1 | 74 | 0.8 | 217 | 2.0 | 97 | 2.7 |
| 1980 | 222 | 0.9 | −40 | −2.6 | 73 | 0.8 | 130 | 1.2 | 59 | 1.6 |
| 1981 | −232 | −0.9 | −35 | −2.3 | −164 | −1.8 | .. | .. | .. | .. |
| *Italy* | | | | | | | | | | |
| 1970–1974 | 60 | 0.3 | −108 | −3.0 | 39 | 0.7 | 20 | 0.3 | 110 | 5.1 |
| 1974–1978 | 112 | 0.6 | −64 | −2.0 | −8 | −0.2 | 106 | 1.3 | 78 | 3.0 |
| 1979 | 174 | 0.9 | −79 | −2.7 | 15 | 0.3 | 199 | 2.3 | 39 | 1.4 |
| 1980 | 183 | 0.9 | −80 | −2.8 | 32 | 0.6 | 190 | 2.1 | 41 | 1.4 |
| 1981 | 206 | 1.0 | −127 | −4.6 | .. | .. | .. | .. | .. | .. |
| *Netherlands*[b] | | | | | | | | | | |
| 1970–1974 | 9 | 0.2 | −6 | −1.9 | −24 | −1.9 | 14 | 0.5 | 25 | 4.9 |
| 1974–1978 | 4 | 0.1 | −5 | −1.6 | −32 | −2.8 | 23 | 0.9 | 18 | 3.0 |
| 1979 | 54 | 1.2 | −5 | −1.8 | −13 | −1.3 | 60 | 2.2 | 12 | 1.7 |
| 1980 | 17 | 0.4 | −1 | −0.4 | −10 | −1.0 | 18 | 0.6 | 10 | 1.4 |
| 1981 | −70 | −1.5 | −4 | −1.4 | −30 | −3.0 | −42 | −1.5 | 6 | 0.8 |
| *Norway*[b] | | | | | | | | | | |
| 1970–1974 | 11 | 0.7 | −10 | −5.3 | 4 | 1.0 | 7 | 1.0 | 11 | 4.4 |
| 1974–1978 | 21 | 1.3 | −4 | −2.5 | −3 | −0.8 | 15 | 2.0 | 13 | 4.2 |
| 1979 | 14 | 0.8 | 1 | 0.5 | −5 | −1.3 | 9 | 1.2 | 9 | 2.6 |
| 1980 | 30 | 1.8 | −1 | −0.7 | −4 | −1.0 | 21 | 2.6 | 14 | 3.9 |
| 1981 | 7 | 0.4 | — | — | −4 | −1.1 | 3 | 0.4 | 8 | 2.1 |

TABLE 1.1.16 (*continued*)

| | | | | | *Non-agricultural enterprise sector* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Total economy* | | *Agriculture* | | *Manufacturing* | | *Non-manufacturing* | | *General government* | |
| *Country and year* | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* |
| *Sweden* | | | | | | | | | | |
| 1970–1974 | 24 | 0.6 | −14 | −4.2 | −3 | −0.3 | −5 | −0.3 | 47 | 5.8 |
| 1974–1978 | 29 | 0.7 | −7 | −2.6 | −15 | −1.4 | -- | − | 51 | 5.1 |
| 1979 | 60 | 1.5 | −6 | −2.3 | 2 | 0.2 | 10 | 0.6 | 54 | 4.5 |
| 1980 | 46 | 1.1 | −6 | −2.4 | −1 | −0.1 | 4 | 0.2 | 49 | 4.0 |
| 1981 | 15 | 0.4 | −5 | −2.2 | −22 | −2.3 | 8 | 0.5 | 34 | 2.7 |
| *Switzerland* | | | | | | | | | | |
| 1970–1974 | 16 | 0.5 | −6 | −2.3 | −12 | −1.0 | 21 | 1.5 | 12 | 4.1 |
| 1974–1978 | −62 | −1.9 | −5 | −2.1 | −38 | −3.4 | −25 | −1.7 | 6 | 1.8 |
| 1979 | 22 | 0.7 | −3 | −1.2 | −3 | −0.3 | 19 | 1.4 | 8 | 2.2 |
| 1980 | 50 | 1.7 | −2 | −0.9 | 15 | 1.6 | 30 | 2.2 | 7 | 1.9 |
| 1981 | 38 | 1.3 | .. | .. | 15 | 1.5 | .. | .. | .. | .. |
| *United Kingdom*[a] | | | | | | | | | | |
| 1970–1974 | 83 | 0.3 | −25 | −3.2 | −87 | −1.0 | 72 | 0.7 | 123 | 3.0 |
| 1974–1978 | −18 | −0.1 | −8 | −1.2 | −154 | −1.9 | 44 | 0.4 | 100 | 2.2 |
| 1979 | 164 | 0.7 | −15 | −2.3 | −102 | −1.3 | 202 | 1.7 | 79 | 1.6 |
| 1980 | −409 | −1.7 | 4 | 0.6 | −336 | −4.6 | −43 | −0.4 | −34 | −0.7 |
| 1981 | −1 306 | −5.4 | −11 | −1.7 | −757 | −10.9 | −501 | −4.3 | −37 | −0.7 |
| *Canada* | | | | | | | | | [c] | [c] |
| 1970–1974 | 302 | 3.8 | −10 | −1.9 | 53 | 3.0 | 226 | 4.4 | 33 | 6.4 |
| 1974–1978 | 212 | 2.3 | −1 | −0.2 | −6 | −0.3 | 202 | 3.3 | 16 | 2.5 |
| 1979 | 397 | 3.9 | 10 | 2.1 | 114 | 5.8 | 278 | 4.1 | −5 | −0.7 |
| 1980 | 286 | 2.8 | −6 | −1.2 | 35 | 1.7 | 216 | 3.0 | 41 | 5.9 |
| 1981 | 330 | 3.1 | 7 | 1.5 | 55 | 2.6 | 275 | 3.8 | −7 | −1.0 |
| *United States* | | | | | [d] | [d] | | | | |
| 1970–1974 | 1 827 | 2.3 | 8 | 0.2 | 178 | 0.9 | 1 238 | 2.9 | 404 | 3.2 |
| 1974–1978 | 2 110 | 2.5 | −38 | −1.1 | 107 | 0.5 | 1 665 | 3.5 | 376 | 2.7 |
| 1979 | 2 572 | 2.7 | −45 | −1.4 | 535 | 2.6 | 1 807 | 3.3 | 275 | 1.8 |
| 1980 | 325 | 0.3 | 13 | 0.4 | −740 | 3.5 | 750 | 1.3 | 302 | 1.9 |
| 1981 | 1 230 | 1.3 | 15 | 0.5 | − | − | .. | .. | .. | .. |

*Sources:* National statistics, and ILO *Yearbook of Labour Statistics*, Geneva 1980; OECD, *Labour Force Statistics, 1968–1979*, and *Quarterly Supplement*, November 1981, Paris, 1981.

[a] Employment refers to June of each year.

[b] Man-years.

[c] Public administration and defence only.

[d] Employees only.

per cent in 1981, caused the unemployment rate to rise sharply from an estimated annual average of 5.3 per cent in 1980 to 7.1 per cent in 1981.[21] The increase reflected primarily the fall in employment, by about 1.4 per cent, in 1981; an even higher rise would have occurred were it not for a slowdown in the growth of the labour force between 1980 and 1981 by about one quarter of one per cent. In contrast to developments in western Europe, in North America the increase in unemployment occurred mainly between 1979 and 1980, as very slow employment growth in the United States in 1980 was followed by a higher, but still moderate, increase in 1981[22] (table 1.1.16).

The extent of recent changes in unemployment varied considerably among the countries of western Europe as shown in chart 1.1.2, which presents for 13 countries average annual unemployment rates since about 1970. The data reveal for different countries a certain similarity between recent changes in unemployment and those which occurred at the time

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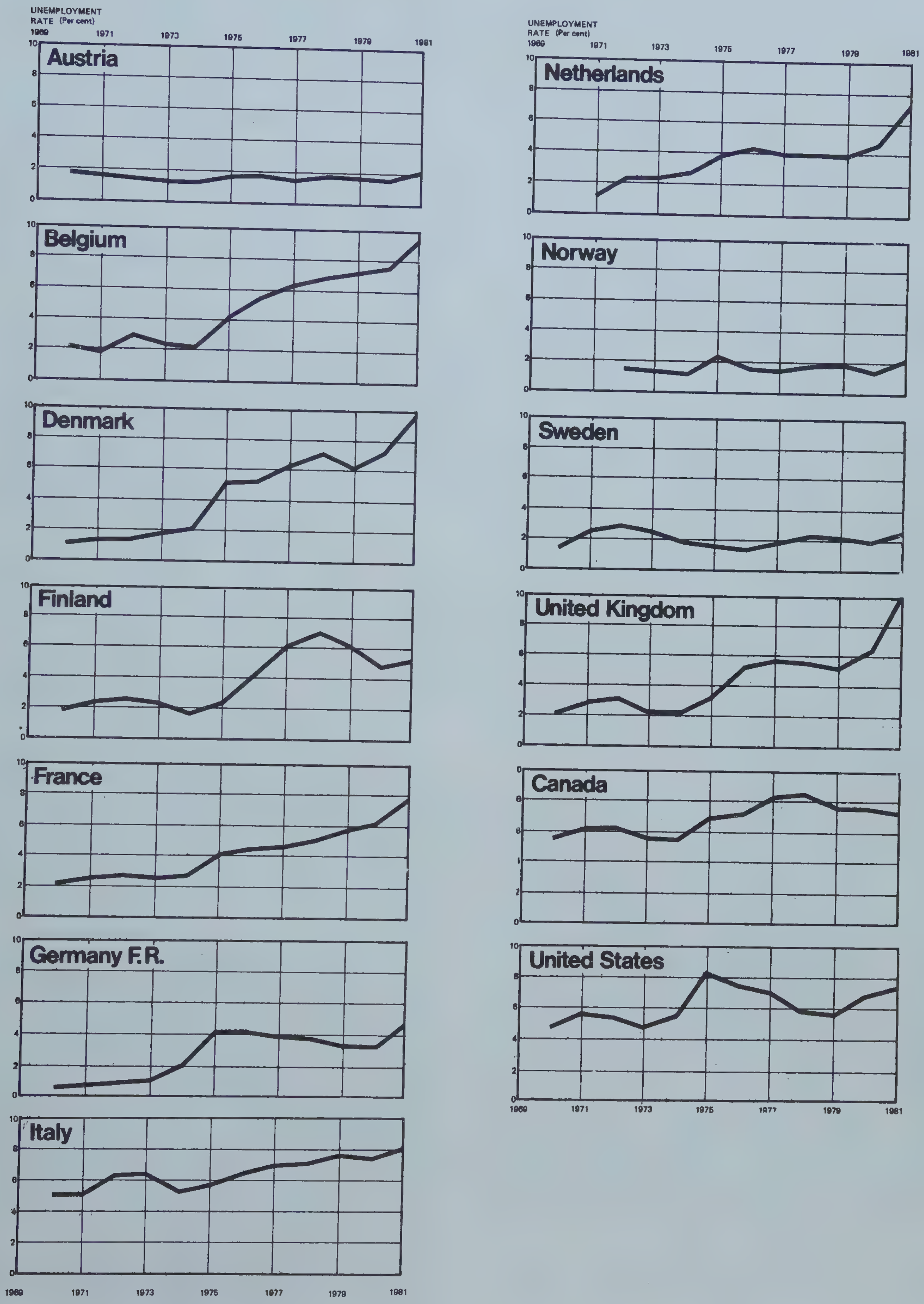
[21] These unemployment rates, and those cited below, have been calculated on the basis of the total estimated labour force. They are therefore lower than those obtained on the basis of narrower concepts of the labour force (civilian labour force, dependent labour force) or on the basis of the population participating in employment or social insurance schemes.

[22] Since the rates are annual mid-year averages, they do not fully reflect the recent sharp increase in unemployment which manifested itself in various countries.

CHART 1.1.2

Unemployment rates in selected countries, 1970–1981



of the 1975 recession. Countries such as Austria, Norway and Sweden, where there was no major increase in unemployment during the 1975 recession, or following it, also recorded only a slightly higher rate of unemployment in 1981 than in the preceding years. In Finland, where the major effect of the 1975 recession on employment manifested itself between 1976 and 1978, unemployment increased only moderately in 1981 as it did in 1975. In other countries, such as Belgium, Denmark, the Federal Republic of Germany, the Netherlands and the United Kingdom, the surge in unemployment in 1981 mirrored that of 1975. In the case of France, however, the current increase appears to be so far somewhat smaller than in 1975. In Italy, the relatively moderate rise in unemployment in 1975 was repeated in 1981. This broad similarity of unemployment changes in the earlier and current recessions in west European countries is not found in North America. Recent increases in unemployment there were much less marked than in 1975; in fact in Canada there appears to have been no change or even a marginal decline between 1980 and 1981.

The similarities in western Europe in the movement of unemployment levels during the two recessions stand in sharp contrast to the large differences in most countries between the initial levels at the time the recessions started. Prior to 1975, rates of unemployment in the majority of west European countries were between 1.5 to 3.0 per cent; only in Italy and Ireland were they substantially higher (over 5 per cent). Except for those countries where unemployment did not rise in the 1975 recession or beyond (Austria, Norway and Sweden), by 1979 typical rates varied from about 5 to 7 per cent, roughly between 2 and 4 per cent higher than in 1974. In Italy the level of unemployment had risen to about 7.5 per cent. Only in the Netherlands and, especially, the Federal Republic of Germany, were unemployment rates in 1979 less than 2 per cent higher than in 1974. In North America, Canada conformed to the general pattern found in Europe; the rate of unemployment in 1979 of 7.5 per cent was two percentage points higher than in 1974. In the United States, on the other hand, the difference between the rates at the two dates was only marginal.

The generally much higher initial level of unemployment may partly explain two features of the recent increase, which were noted before:[23] the greater increase in unemployment for men than for women and a substantial rise in unemployment among men in the central age groups. The upward trend in unemployment during the 1970s, which culminated in the high rates at the end of the decade, reflected to a large extent the worsening relative position of younger workers and women in particular.[24] With already high or increased levels of unemployment among these groups, who are the most susceptible to deteriorating employment conditions, the further increase in unemployment during the current recession may have spread to groups which previously had suffered less.

Unemployment data for 1981 are not yet available in sufficient detail to corroborate fully the features noted above, but statistics for selected countries provide some supporting evidence. A more rapid increase in unemployment amongst men in the last two years is found in all countries with rapid increases in unemployment for which data are available:[25]

| | | *Percentage increase in number of unemployed* | | | |
|---|---|---|---|---|---|
| | | *Both sexes* | | *Males* | |
| *Country* | *Month* | *1979/80* | *1980/81* | *1979/80* | *1980/81* |
| Belgium | Nov. | 17.3 | .. | 27.8 | .. |
| France | Dec. | 11.1 | 23.4 | 15.0 | 30.6 |
| Germany, Fed. Rep. of | Dec. | 26.1 | 52.4 | 39.5 | 63.8 |
| Netherlands | Dec. | 47.2 | 49.1 | 60.0 | 54.4 |
| United Kingdom | Oct. | 50.8 | 44.9 | 52.8 | 48.9 |

Moreover, among men the growth of unemployment in the central age groups has shown a tendency to be higher than, or at least close to, the increase in total unemployment in all countries except Belgium.

| | | | *Percentage increase in number of unemployed* | | | |
|---|---|---|---|---|---|---|
| | | | *Males* | | *Males in central age groups* | |
| *Country* | *Month* | *Age group (years)* | *1979/80* | *1980/81* | *1979/80* | *1980/81* |
| Belgium | July | 25–39 | 18.2 | 61.7 | 8.3 | 46.5 |
| France | Dec. | 25–49 | 11.1 | 23.4 | 15.0 | 30.6 |
| Germany, Fed. Rep. of | Oct. | 20–59 | 21.4 | 69.5 | 22.0 | 71.9 |
| Netherlands | Dec. | 25–49 | 60.0 | 54.4 | 63.2 | 53.3 |
| United Kingdom | Oct. | 25–44 | 52.8 | 48.9 | 53.6 | 53.2 |

Thus, in four of the five countries unemployment rates of men in the central working ages—a group generally believed to have greater immunity to the effects of deteriorating employment conditions—have risen more rapidly than those for other segments of the labour force who are usually more vulnerable, such as youths, older workers and women.

The greater impact of rising unemployment on men in the central age groups may, however, be partly explained by the nature of the changes in the labour force and in employment which have occurred in recent years. According to the available data, the estimated increase in unemployment of about 2.4 million between 1979 and 1981 in these countries can be attributed mainly to a decrease in employment (amounting to a loss of over 2 million jobs) and only to a small extent to an increase in the size of the labour force (which was about 400,000). Unemployment thus affected mainly persons already in the labour force, of which men in the central age groups represent a substantial proportion, rather than entrants to the labour force, who are predominantly the young and women. In such circumstances, the relatively rapid rise of unemployment among men, and particularly among men in the central age groups, may not be so surprising.

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[23] See *Economic Survey of Europe in 1980*, p. 19.

[24] See section 1.1 (vii) (*b*) below.

[25] However, as mentioned below, there are reasons for believing that in the early stages of a recession, male unemployment rates may rise more than those for women.

For the remaining eight countries in western Europe the stagnation in employment was less obvious, although it should be noted that Denmark was closer to the five countries mentioned above. In the eight countries combined employment increased by some 725,000 between 1979 and 1981 compared with labour force growth of roughly 1,026,000. Unemployment increased by only some 300,000. There was also no loss of jobs between 1979 and 1981 in Canada and the United States: employment in these countries rose by some 2.1 million and, combined with the growth in labour supply of 4.1 million, this resulted in a rise in unemployment of about 2 million.

The stagnation or decline of employment was not limited to the more recent years. A large part of the rising unemployment in western Europe during the 1970s can be ascribed, as discussed in section 1.1(iii)(b), to the loss of jobs. The longer term trends and recent evolution by major sectors are illustrative in this regard (table 1.1.16). Of the 12 countries for which data are available, all experienced losses in the number of manufacturing jobs. Between 1974 and 1978 the average annual percentage decline was of the order of 1.8 per cent, with the largest declines, 4.1 and 3.4 per cent respectively, in Belgium and Switzerland. In 1979 the situation improved somewhat with declining job losses compared with the years between 1974 and 1978, and in Finland, the Federal Republic of Germany, Italy and Sweden there were gains in manufacturing employment, although they were small in percentage terms. Percentage changes in 1980 were similar to the previous year. In five countries (Austria, Finland, the Federal Republic of Germany, Italy and Switzerland) there were increases in the number of workers employed in manufacturing in 1980, but only in Italy did the increases in manufacturing employment in 1979 and 1980 exceed the number of jobs lost in that sector in 1974–1978. Of the 12 countries, the greatest decline in manufacturing employment in 1980 was in the United Kingdom, a decrease of 4.6 per cent or almost 340,000 jobs. While the data for 1981 are still incomplete, it would appear that the sector most affected by the decline of employment was again manufacturing. The declines that took place in nine of the 12 countries were for the most part at least twice the magnitude of the 1980 percentage declines. In most countries the loss equalled, and in a few countries surpassed, the steep average annual percentage declines of the years 1974–1978. Only in Finland (3.0 per cent) and Switzerland (1.5 per cent) was there an expansion of the number employed in the manufacturing sector. The acceleration of employment losses in the manufacturing sector in 1981 would indicate that a levelling off in the decline in the numbers employed in manufacturing had still not begun.

One feature of employment patterns in 1980 was that declines in manufacturing employment were more than offset by increases in non-manufacturing enterprise employment. In 1980, for the 12 countries providing data, a total of approximately 300,000 jobs were lost in the manufacturing sector while the non-manufacturing sector gained about 500,000 jobs, a net gain of 200,000 jobs. However, the difference between non-manufacturing employment gained and manufacturing employment lost has fluctuated a great deal over the years and thus cannot be considered a stable phenomenon. In 1979, in the 12 countries, the increase in non-manufacturing employment exceeded the loss in manufacturing employment by about 800,000 jobs, but in the period 1974–1978 approximately 1 million more jobs were lost in manufacturing than were gained in non-manufacturing.

While data are only available at present for four countries, it would appear that in 1981 not only will the non-manufacturing sector be unable to compensate for the loss of employment in manufacturing, but it is likely to experience some contraction of employment itself. Of the four countries, there were declines in non-manufacturing employment in the Netherlands (1.5 per cent) and in the United Kingdom (4.3 per cent), and in the other two the increases were marginal (Norway 0.4 per cent and Sweden 0.5 per cent), these increases being exceeded by the loss in manufacturing employment in both countries.

The second traditional absorber of excess labour is general government. The annual percentage increases in employment in this sector have been successively diminishing over the 1974–1980 period, an inevitable outcome after the unsustainably high percentage increases of the early 1970s. The average annual increase in general government employment in the 12 countries for the years 1970–1974 was 4.3 per cent, with increases as high as 5.8 per cent in Sweden, 5.4 per cent in Denmark, and 5.1 per cent in Italy. For the years 1974–1978 the average annual percentage increase dropped to 3.2 per cent, with all countries registering a lower increase in 1974–1978 than in 1970–1974. By 1979 the average annual increase had declined further to 2.4 per cent, although in three countries (Belgium, the Federal Republic of Germany and Switzerland) the percentage increases were higher than in 1974–1978. In 1980 labour absorption by the general government sector was further weakened as in the United Kingdom, where there was a decline of 0.7 per cent of employment in general government. The average increase for 11 countries fell still further to 2.0 per cent a year. This steady and rapid decline partly reflects government budget cutbacks, as well as a growing reluctance on the part of some governments to view the public sector as an employer of last resort. A comparison of the change in general government employment between 1975 and 1981, both recession years, is possible only for five countries. It suggests that the role of this sector in cushioning part of the effect of rising unemployment has changed. Whereas in the United Kingdom employment in this sector increased by 6.6 per cent in 1975, in 1981 it declined by 0.7 per cent. An increase of 2.1 per cent in the Netherlands in 1975 compares with slow growth of 0.8 per cent in 1981. However, in Finland, Norway and Sweden, countries in which unemployment did not increase greatly in 1981, the general government employment continued to expand substantially (at 2.0, 2.1 and 2.7 per cent, respectively). Even so, these rates were considerably lower than in 1975 (3.9, 3.3 and 5.1 per cent, respectively).

### (b) *Changing characteristics of the unemployed*

The recent rapid increase in unemployment and the growing pressures for measures to control it have given added importance to the question of which population groups are most affected by these developments. Policy intervention in the labour market aimed at reducing unemployment and the scope and content of such policies and measures will to a considerable degree depend upon the nature of unemployment and the characteristics of the unemployed.

Starting in the 1970s, rising unemployment in most western European countries has been associated with substantial changes in the characteristics of the unemployed. Some of these changes caused widespread concern, particularly the rapid acceleration of youth unemployment after the first half of the 1970s.[26] Another trend during the 1970s, which has drawn less attention, was the apparent relative worsening of women's unemployment situation, compared with that of men. More recently, as already noted, the increase in unemployment has been associated with what seems to be a sharp rise in unemployment amongst men in the central age groups.[27]

The differential impact of unemployment on different population groups is obviously not independent of the overall trends in unemployment, labour force and evolution of employment. The following comments suggest the existence of substantial variations in this respect between countries and over time.

Patterns of unemployment presumably are affected, in a direct manner, by the levels and trends in overall unemployment. Data on the latter for the period since about 1970, as presented in chart 1.1.3 show that despite considerable variations, there are some general common features shared by different countries. One group which distinguish themselves from the rest is formed by Austria, Norway and Sweden. Also in this group is Switzerland, for which no data are shown, but where the unemployment rate for most of the period was negligible and at no time since 1970 exceeded 0.7 per cent. Characteristics common to these countries include a low rate of registered unemployment throughout the period and at most an only slight increase in the unemployment rate at or after the 1975 recession. The low rate of unemployment during the 1970s is evident, even when limitations on the comparability of statistics are taken into account. In no case did the unemployment rate in any of the countries concerned reach 3.0 per cent (the highest observed level was 2.7 per cent in Sweden in 1972) and the average rate of the period 1970 to 1981 was of the order of 2.0 per cent (in Sweden) or less. In addition, although the 1975 recession affected employment levels unfavourably, in all of these countries except Sweden, the increase in unemployment levels was generally small (the highest relative increase was from 1.5 to 2.3 per cent in Norway) and was followed by decreases in the next years. Actually, in two countries, Austria and Sweden, registered unemployment rates in the latter part of the 1970s were below those in the first half. Finally, as far as data are available, they suggest only a moderate increase, at least up to 1981, in unemployment since the onset of the 1979 recession.

In contrast to these four countries, virtually all others in western Europe, as well as the United States and Canada, are characterized by significantly higher unemployment levels in the second as compared with the first half of the 1970s, a development which started with a more or less pronounced rise in unemployment at the time of the 1975 recession. This pattern is least evident in Italy, which already experienced comparatively high unemployment in the early 1970s and showed only a moderate increase between 1974 and 1975, although since then a steady increase, resulting in higher overall levels than before, can be observed. Data for Ireland are incomplete, but suggest an evolution similar to that in Italy. Another country which also stands somewhat apart is Finland, where unemployment increased comparatively little between 1974 and 1975, but continued to rise steadily to reach a peak in 1978. The two following years saw a rapid decline, but the rate for 1980 was still above those registered for the first half of the decade.

In the remaining countries, unemployment trends in the 1970s were significantly affected by the rise due to the 1975 recession. Variations, however, are found particularly as regards the degree to which employment recovered after the 1975 recession. Only in one case, that of the United States, did unemployment rates decline sufficiently after 1975 to come close to, although not as low as, prerecession rates. In all other countries, unemployment remained well above levels attained before the recession, albeit with differences. In the Federal Republic of Germany and, to a lesser extent, in the Netherlands, rates of unemployment declined somewhat or tended to stabilize after 1975 through 1979 or 1980. Canada and Denmark also show a stabilization of unemployment rates in 1976, followed, however, by a further increase, with the rates reaching a maximum in 1978, followed by a decline in 1979. Finally, in Belgium, France and the United Kingdom unemployment did not abate after 1975, but continued to rise. In fact, in the latter of these countries the increase in the rate between 1975 and 1976 was of the same order of magnitude as in the preceding year, and a decline in the unemployment rate did not occur until 1979 and even then was only marginal.

Although the above findings are reasonably consistent, some inherent limitations of the results should be noted.[28] In the first place, unemployment data, mostly based on registration statistics, do not reveal the possible extent of so-called disguised unemployment, due to the withdrawal from the labour market of some persons, referred to as discouraged workers, when confronted with the impossibility of finding a job. In the second place, government policies with respect to labour and unemployment may have affected registered unemployment in various, and opposite, ways. Public programmes, which provide employment for persons who had or would have lost their jobs, or which facilitate withdrawal from the labour force, such as early retirement programmes, tend to lower registered unemployment. On the other hand, extending the coverage of eligibility for unemployment benefits or raising the benefit levels may induce an increase in those registering as unemployed, who otherwise would not have done so. Increasing the benefits or easing requirements to become eligible for them may reduce the pressures on the unemployed to find work.

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[26] See *Economic Survey of Europe in 1978*, Part 1, "The European Economy in 1978", p. 15 and table 1.10.

[27] See also *Economic Survey of Europe in 1980*, p. 19.

The potential effect of these factors should not be underestimated and their significance for registered unemployment and its structure cannot be discounted. As will be seen below, there is some evidence that the discouraged worker effect may be of some importance, especially under depressed conditions in the labour market. As to the impact of employment programmes, it has been noted that the low unemployment rate of Sweden is possibly misleading, since the number of persons engaged in labour market policy measures aimed at relieving unemployment exceeded the number of registered unemployed by more than half in 1977 and 1979 and by over 40 per cent in 1978.[29] Early retirement schemes in different countries may have involved up to 2 per cent of the civilian labour force. Estimates for the Netherlands, also cited before, suggest that disguised unemployment amongst those benefiting from labour unfitness legislation may have represented between 2 and 3 per cent of the labour force in 1978 and 1979.[30]

The impact of pressure on employment levels and characteristics originating from the supply side through the growth of the working population in the 1970s is uncertain. This is partly due to the difficulties in establishing clear trends as regards labour force growth; considerable variations in this respect existed between countries and, only to a slightly lesser degree, between different years within countries. For the period since 1970 as a whole only a few countries exhibited exceptionally high or low rates of increase of their labour force; the dominant trend was one of fairly moderate growth. Sustained high growth since 1970 was found only in North America, and even there with some fluctuations. In Canada the relative increase of the labour force between 1970 and 1980 was estimated to be about 37 per cent, implying an annual growth rate of over 3 per cent. The United States experienced over the same period an increase of close to 25 per cent in its labour force, or an annual growth rate of 2.2 per cent. Only one country in western Europe, Norway, showed a rate of labour force growth comparable to that observed for the United States, but most of this increase apparently took place starting around 1974. At the other extreme, between 1970 and 1980 the labour force decreased in absolute numbers in the Federal Republic of Germany and, especially, in Switzerland. This fall occurred primarily as a result of the return migration of foreign workers. Moderate rates of labour force growth of between 8 and 11 per cent were estimated for Belgium, Denmark, France, Italy, the Netherlands and Sweden, with a probably somewhat higher increase than the upper limit in Ireland. Growth rates under the lower limit cited were found in Austria, Finland and even more so in the United Kingdom.

There is no immediately obvious evidence of the effect of these overall labour force trends on unemployment levels. For instance, countries with low unemployment levels throughout the 1970s include Norway, where labour force growth was very rapid; Sweden where it was intermediate; Austria where it was slow and Switzerland where it was negative. This is not to say that labour force growth does not affect unemployment; a more detailed analysis could well prove the opposite. However, the data show no directly discernible influence; in fact, they suggest rather that unemployment may have affected labour supply. In most of those countries which between 1974 and 1975 experienced a significant increase in unemployment, labour force growth in the same year fell significantly. Amongst those which experienced a rise in unemployment rates and a lower increase in labour force in 1974–1975 than in the preceding and following years were Austria, Belgium, Denmark, France, Federal Republic of Germany, Switzerland and the United States. However, the fact that labour force trends in several countries, including Canada, the Netherlands and the United Kingdom, where unemployment also increased significantly, did not conform to this pattern, means that evidence for the hypothesis of a discouraged worker effect is less than conclusive. The limited labour force data thus far available for 1981 suggest similar conclusions. A slowdown in labour force growth appears to have occurred in several countries, such as Belgium, the Federal Republic of Germany, the Netherlands and the United Kingdom, but not in several others in which unemployment also rose significantly.

One feature of the evolution of labour supply in the 1970s may have had significant repercussions on both levels and characteristics of unemployment. This is the large differential in growth between the sexes and, in many countries, a very low or virtual cessation of growth of the male labour force. As the following table shows, estimated percentage increases of the female working population exceeded those of males by a large margin in all countries:

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[28] It should also be recalled that unemployment rates have been calculated on the basis of total labour force and accordingly may differ from those calculated on a different base.

[29] See *Economic Survey of Europe in 1978*, Part I, "The European Economy in 1978", p. 15 and also section 1 (iii)(c) below.

[30] *Economic Survey of Europe in 1979*, pp. 24–25.

| Country | *Estimated increase of labour force, 1970–1980 (per cent)* | |
|---|---|---|
| | *Males* | *Females* |
| Austria | 4.4 | 8.9 |
| Belgium | 0.5 | 25.1 |
| Denmark | 1.0 | 25.2 |
| Finland | 1.3 | 13.8 |
| France | 2.2 | 19.0 |
| Germany, Federal Republic of | −3.7 | 5.2 |
| Italy | 2.3 | 26.3 |
| Netherlands[a] | 3.6 | 30.8 |
| Norway | 4.9 | 72.0 |
| Sweden | — | 26.2 |
| Switzerland | −4.7 | −.8 |
| United Kingdom | −1.8 | 15.4 |
| Canada | 24.0 | 63.3 |
| USA | 14.3 | 41.7 |

[a] 1971–1980

Especially large differences are found in Belgium, Denmark and Sweden, where a very small increase (1.0 per cent or less over 10 years) or no change in the male working population, was associated with an increase of female labour force of 25 per cent or more. In Norway, a moderate expansion of less than 5 per cent in the number of men in the labour force was accompanied by a very large increase, of over 70 per cent, in the number of working women. Also in some other countries, such as France, Italy and the Netherlands, the percentage increases for women were between eight to ten times higher than those for men. Apart from Switzerland, where both the male and female labour force declined in number, Austria seems to be the only country which maintained some semblance of balance in labour force growth for each sex.

The stagnation in the growth of the male labour force is also evident in the percentage contributions of men to the total growth of the working population between 1970 and 1980. Typically, in Belgium, Denmark, Finland, France, Italy, the Netherlands and Norway males accounted for roughly only between 5 and 25 per cent of the total labour force growth between 1970 and 1980. In only three countries (Austria, Canada and the United States) did the share of males in the total increase in labour force approach or exceed 40 per cent. In the remaining countries the male labour force did not increase at all (Sweden) or declined in absolute numbers (the Federal Republic of Germany, Switzerland and the United Kingdom).

For western Europe and North America as a whole the moderate but sustained growth of labour supply, together with the deteriorating employment conditions which characterized the 1970s, obviously led to the emergence of a wide gap between the size of the labour force and the level of employment. Between 1970 and 1980, according to rough estimates, the working population of all countries combined increased by some 30.9 million, as against a rise in employment of only 23.0 million. Job creation thus fell some 7.9 million short of the increase in labour supply or, alternatively stated, the additional employment generated in the 1970s absorbed only three quarters of the increase in the labour force. The evolution in North America was more favourable than that for all the countries combined. Although labour supply in North America increased much more rapidly than in Europe, so did employment. As a result the shortfall in jobs in the United States and Canada combined was between 3.7 and 3.8 million out of a labour force increase of 24 million and the expansion in employment amounted to 85 per cent of the rise in labour force. This percentage was similar in both countries.

In comparison with the United States and Canada, western Europe's situation was much more unfavourable. The labour force expanded by an estimated 6.8 million—the rate of growth being much slower than in North America—but the number of jobs went up by only some 2.7 million, which represents only two fifths of the labour supply increase and a shortfall in employment of some 4.1 million. Moreover, within western Europe developments varied considerably. In Austria employment increased more than the labour force, though only by a very small margin, and in two other countries, Norway and Sweden, there was a near balance between the two. In a second group of countries, which included Italy, Ireland and the Netherlands, new jobs created during the decade represented about two thirds of the labour force. The corresponding proportion was about half in Finland and France, and only between about one fourth and one third in Belgium and Denmark. In the United Kingdom a substantial increase in the labour force was associated with a fall in employment, thus resulting in a small negative fraction. In the Federal Republic of Germany and Switzerland both the labour force and employment declined in absolute terms, but whereas in Switzerland the two declined by not very different amounts, in the Federal Republic of Germany the loss in jobs exceeded the fall in labour force by close to 750,000.

The slow growth of employment in western European countries is obviously to some degree associated with the stagnation of manufacturing and the job losses associated with it in many countries. On the whole, countries experiencing the emergence of a large employment gap between 1970 and 1980, also recorded a significant fall in manufacturing employment during the same period. Such is the case with Belgium, where manufacturing employment decreased by one fifth in the decade, and the United Kingdom, where a slightly lower drop occurred. Similarly, in Denmark employment in manufacturing declined substantially. However, the loss in manufacturing employment was not limited exclusively to those countries where the largest employment gaps are found. In the Netherlands the percentage decline in manufacturing was nearly as much as in Belgium. Another contributing factor to the slow growth of employment in a number of countries was the slow growth or stagnation of the non-manufacturing enterprise sector, which in the past absorbed a substantial fraction of the growth of the labour force. In some countries such as Finland and Sweden, employment in this sector suffered a net loss, and in others, including the Federal Republic of Germany, Italy, Switzerland and the United Kingdom, it increased by less than, or not much more than 5 per cent. Finally, the slowdown in the expansion of general government, especially in the latter half of the decade, may have added another negative effect on employment growth.

A prominent feature of the changes in the structure of employment during the last decade has been a pronounced trend in many countries toward what might be referred to as "de-industrialization". Data available for 12 countries show that the proportion of the employed labour force working in manufacturing fell in all except Finland. In three countries—Belgium, the Netherlands and the United Kingdom—the percentages of the work force in manufacturing in 1980 were nearly one fourth lower than in 1970. Substantial losses, of between 12 to 15 per cent, occurred in Denmark, Norway, Sweden and Switzerland. In most of these countries these losses were not made up by the non-manufacturing enterprise sector, as the following table shows:

| | *Percentage of total employment in:* | | | |
|---|---|---|---|---|
| | *Manufacturing* | | *Non-manufacturing enterprise sector* | |
| *Country* | *1970* | *1980* | *1970* | *1980* |
| Austria | 31.5 | 30.1 | 40.2 | 43.0 |
| Belgium | 32.7 | 25.4 | 40.6 | 42.6 |
| Denmark | 24.9 | 21.2 | 39.2 | 39.1 |
| Finland | 23.0 | 25.5 | 42.8 | 41.9 |
| France | 28.1 | 25.8 | 44.9 | 49.4 |
| Germany, Federal Republic of | 38.1 | 35.0 | 42.2 | 44.3 |
| Italy | 28.1 | 27.5 | 42.6 | 44.5 |
| Netherlands | 26.6 | 20.5 | 55.3 | 58.5 |
| Norway | 24.5 | 21.7 | 46.5 | 48.6 |
| Sweden | 26.5 | 22.8 | 44.6 | 41.0 |
| Switzerland | 36.7 | 32.4 | 45.3 | 47.6 |
| United Kingdom | 34.2 | 26.5 | 45.8 | 49.6 |

### *Sex patterns of unemployment*

One of the issues posed by the large sex differentials in labour force growth and the emergence of a large unemployment gap in the 1970s is their effect on the relative unemployment levels of men and women. The question arises whether the relatively weaker position of women in the labour market, which manifests itself in various aspects of conditions of work, principally with respect to levels of pay, is also reflected in unemployment differentials between men and women and their evolution over time. This question is important since the participation of women in the labour force has not only expanded very rapidly, but also has become much less casual than used to be the case. Income from work of married or independent women has come increasingly to be relied on as a significant component of family or household income. At the same time traditional labour market policies in support of employment (such as those providing vocational training or work on government sponsored projects) are principally oriented towards men, and women's participation in them generally has been fairly limited.

It is not always easy to determine whether, and to what extent, recent rises in unemployment have had a differential impact on men and women. One obvious problem is assessing the role of cyclical versus structural trends in unemployment levels, particularly since each may affect the sexes differently. Basically, it can be affirmed that in the majority of western European countries and in North America unemployment levels of men have been below those of women (table 1.1.17).

TABLE 1.1.17

**Unemployment rates of men and women: 1970 and 1980**

| | *Unemployment rate (per cent)*[a] | | | |
|---|---|---|---|---|
| | *Males* | | *Females* | |
| | *1970* | *1980* | *1970* | *1980* |
| *Western Europe* | | | | |
| Austria | 1.2 | 1.4 | 2.8 | 2.0 |
| Belgium | 1.8 | 7.5 | 2.3 | 12.9 |
| Denmark | 1.4 | 6.4 | 0.5 | 7.8 |
| Finland | 2.6 | 4.8 | 1.0 | 4.9 |
| France | 1.4 | 4.1 | 4.2 | 9.7 |
| Germany, Fed. Rep. of | 0.5 | 2.6 | 0.6 | 4.6 |
| Ireland | .. | .. | .. | .. |
| Italy | 3.7 | 5.1 | 9.4 | 13.9 |
| Netherlands | 1.4 | 4.3 | 0.9 | 5.3 |
| Norway | .. | 1.4 | .. | 2.9 |
| Sweden | 1.4 | 2.0 | 1.8 | 2.2 |
| Switzerland | — | — | — | — |
| United Kingdom | 2.9 | 7.0 | 0.9 | 5.1 |
| *North America* | | | | |
| Canada | 5.6 | 6.9 | 5.8 | 8.4 |
| United States | 4.1 | 6.7 | 5.9 | 7.4 |

[a] Rates calculated on the basis of estimated total labour force.

In all but four of the 12 countries for which data were available for 1970, the unemployment rates of men were lower than those for women. In addition the differences between the ratio were minimal in Canada and the Federal Republic of Germany, in the latter case partly so because of the low unemployment level. In contrast, substantial differences were found in France and Italy, where women's unemployment rates were 2.5 to 3 times those of men. In the four countries where a higher proportion of males than females were unemployed in 1970 (Denmark, Finland, the Netherlands and the United Kingdom) the excess male unemployment was fairly substantial.

By 1980 the situation had changed in two major respects. First, only the United Kingdom continued to show higher unemployment levels for males than females, although the relative margin between the two rates had narrowed considerably. Moreover, reported unemployment rates for the two sexes in that country do not necessarily reflect true conditions, since joining the unemployment insurance system was optional for married women (and workers over retirement age). Those who elected not to join the system were not required to make contributions, but they also received no entitlement to benefits. Therefore, in the event of unemployment, there was no incentive for those not participating in the system to register. In addition, it should be noted that although in Finland the unemployment rate of women in 1980 was marginally higher than that of men, until 1979 the reverse was true, and preliminary estimates for 1981 suggest that 1980 was an exception. Data not shown in the table indicate that in the two other countries, where a reversal from excess male to excess female unemployment took place (Denmark and the Netherlands) the changeover in rates occurred around 1977 and 1978.[31]

The second change was that, in the majority of countries, the difference between female and male unemployment rates in 1980 was substantially higher than in 1970, the only exceptions in this respect being Austria and Sweden. In Belgium, Canada, France, the Federal Republic of Germany and Italy in particular the rise in the female unemployment rate was substantially higher than that for males. For all countries taken together the difference between the unweighted averages of the female and male unemployment rate increased from 0.7 per cent in 1970 to 2.1 per cent in 1980.

Whereas these data suggest a deterioration of the relative situation of women compared with men between 1970 and 1980, it is difficult to determine whether this evolution is mainly due to trends in the labour force (particularly the rapid growth in the number of women entering the labour market and the small increase in the number of men) or to the unfavourable developments in the labour market in terms of unemployment which affected women in particular. Although neither assumption is easy to test, an answer to this question would be relevant to policy considerations. Obviously, the high levels of women's unemployment, no less than in the case of men, create pressures for some remedial action. Appropriate policies and measures, however, might differ, depending on whether the major cause lies with more structural, long-term factors such as the growth of labour supply or the, hopefully, shorter-term phenomenon of high unemployment.

To the extent that the past decade has been a period of rapid deterioration in employment conditions not only for women but also for men, it could be argued, considering the slow growth of the male labour force, that at least part of the problem lies with a slow expansion or stagnation of employment rather than with supply factors. However, there are also indications that the relative worsening of female unemployment may have started well before the onset of the rise in unemployment levels in the 1970s.

Data on unemployment trends prior to 1970 were compiled for only a few countries (Canada, Finland, the Federal Republic of Germany and Sweden), but most of these tended to show some worsening of the employment situation of women before or around 1970. The ratio of female to the total unemployment rate is one measure which can be used to assess the evolution of the relative employment situation of the sexes. In Finland a rising trend in this ratio, indicating a more rapid rise of female unemployment compared with total unemployment, started to manifest itself towards the end of the 1960s continuing, with sharp fluctuations, in the 1970s. In the Federal Republic of Germany a large increase in the ratio (from 0.84 to 1.05) occurred between 1969 and 1970 and again (from 1.05 to 1.26) between 1970 and 1971. In Canada, a gradual tendency for the ratio to increase also started in the latter part of the 1960s. However, in Sweden no significant change seems to have occurred prior to 1970, a fact which may be partly explained by the at that time higher male than female unemployment rate. On the whole these data provide at least some support to the hypothesis that the deterioration of the employment situation of women cannot be exclusively attributed to the worsening of unemployment in the 1970s.

A more detailed analysis of the evolution of male and female unemployment in the course of the 1970s is seriously limited by the effect of cyclical fluctuations on unemployment. However, the effect of the latter on sex patterns of unemployment are themselves of some interest. The behaviour of female and male unemployment during the cycle are generally thought to be subject to two opposing sets of factors. On the one hand, it is argued that because of their weaker attachment to the labour market female workers find themselves in a disadvantaged position as regards level of training, experience and seniority, which tend to make them vulnerable when employment conditions worsen. On the other hand, it has been noted that a larger proportion of women than men are employed in sectors (services or general government) or occupations (administrative and white collar jobs) which are less subject to cyclical fluctuations than, for instance, construction or heavy manufacturing industries, which employ mostly men.

The fluctuations in unemployment during the 1970s do not provide firm evidence in support of either hypothesis. In some cases a rise in total unemployment has affected females disproportionately, but in other cases the impact has been greatest on males. There is reason to speculate that the response of the unemployment rates of each sex to a change in total unemployment may be related to their relative levels of unemployment. To the extent that the distribution of the unemployed between the two sexes is not too imbalanced and changes in unemployment do not cause a radical shift in this distribution, a rise in unemployment levels would have a tendency to proportionately increase the lower rate more than the overall rate. The same would be true for a decline in total unemployment. One implication of the pattern is that since in the large majority of countries female unemployment rates exceed those of males, one would expect a more rapid increase of unemployment of men in the initial stages of a cycle but also a more rapid decline in times of recovery.

The sex patterns of labour force growth and unemployment have had several effects on the employment gap for men and women, as may be seen in the rough estimates presented in the following text table, which indicate order of magnitudes rather than precise figures:

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[31] In Norway no data for 1970 comparable with those for 1980 could be found, but the data available for the former year suggest a higher male unemployment rate at that time, whereas in 1980 the female rate was the higher one.

**Estimated changes in labour force and employment 1970–1980 and employment gap, by sex**
(*In millions*)

| | *Males* | | | *Females* | | |
|---|---|---|---|---|---|---|
| | *Change in:* | | | *Change in:* | | |
| | *Labour force* | *Employment* | *Employment gap* | *Labour force* | *Employment* | *Employment gap* |
| Western Europe and North America | 9.0 | 5.1 | 3.9 | 21.8 | 17.9 | 3.9 |
| Western Europe | −0.1 | −1.9 | 1.8 | 6.8 | 4.6 | 2.2 |
| North America | 9.1 | 7.0 | 2.1 | 15.0 | 13.3 | 1.7 |

For Europe and North America combined, the rise in employment for each of the sexes was about 3.9 million less than the increase in labour force. Despite the fact that developments during the 1970s appeared to be to the disadvantage of women, in terms of both pressures on the labour market through a rapid increase in labour supply and the relative worsening of female unemployment, the employment gap at the end of the decade was not higher for women than for men. Actually, in North America it was less for women, 1.7 million, than for men, 2.1 million. However, in western Europe the opposite was true; employment of men declined by 1.8 million, whereas in the case of women the growth of the labour force surpassed the rise in employment by 2.2 million. Nevertheless, even in western Europe men seemed to have been disadvantaged, at least in one respect. In their case the entire deficit in employment accumulated in the course of the 1970s was solely the result of a drop in employment, since the male labour force on the whole did not increase at all and in fact declined somewhat. The net loss in employment of 1.9 million is indicative of the scale of deterioration of the labour market conditions facing the male working population at the beginning of the new decade.

### *Age patterns of unemployment*

The changes in the labour force and employment conditions in the past decade have also left their imprint on the age structure of the unemployed. It has already been noted that the increase in unemployment which occurred between 1973 and 1978 had a different impact on different age (and sex) groups. The disproportionate increase in unemployment among young persons was only one manifestation of the shift in the age composition of the unemployed which occurred in the 1970s, though possibly the most striking. The emergence of the problem of youth unemployment has created an awareness of the wide-ranging repercussions of the age structure of unemployment and changes in it. As in the case of other characteristics of the unemployed such as their sex composition, occupational distribution and differential levels of qualification, age is a significant parameter for the orientation and formulation of labour market policies.

Considering their potential importance from the policy perspective, there is an unfortunate paucity of information on, and lack of understanding of, the age patterns of unemployment themselves and the factors determining them. This is in part due to the fact that the concern about the differential impact of unemployment on the various age groups is relatively new, starting with the rising unemployment trend in the 1970s, in part it may be attributed to the complex nature of age patterns of unemployment. Quantitative and qualitative factors on the supply side, such as a rapid increase in the labour force of certain ages or differences in levels of qualifications and desired wages of workers in various ages, in combination with varying conditions of demand are only some of the elements which may affect unemployment in the various age groups differently. Obviously, the interaction of so many variables is likely to result in a diversity of situations, from which it is difficult to determine any systematic pattern.

The data for three countries presented in chart 1.1.3 illustrate the variation in age-specific unemployment rates.[32] They show for each year from 1970 to 1980 the differences between unemployment rates in selected age groups (20 to 24 and 55 to 64 years for men and women, and 35 to 44 years for women) and those of men in ages 35 to 44 years. The unemployment rate of men aged 35 to 44 years was taken as a base of reference on the assumption that it would come closest to reflecting basic trends and fluctuations in unemployment. The other age groups were selected so as to represent unemployment among the young, women in the central ages, and men and women in the older ages.

Although chart 1.1.3 does not cover a large enough number of countries to arrive at general conclusions, it suggests certain common features, as well as differences. One of the main features is that the data confirm the susceptibility of young persons to higher than average unemployment levels. In each of the three countries, and for all years, unemployment rates for both men and women aged 20–24 years were well above those for men in the central working age group (35–44 years). Moreover, the unemployment rates recorded for younger workers generally surpassed by a substantial margin those for other groups (such as women in the central ages and older workers), the only exception being in Finland in the early 1970s, when the gap between these groups was rather narrow.

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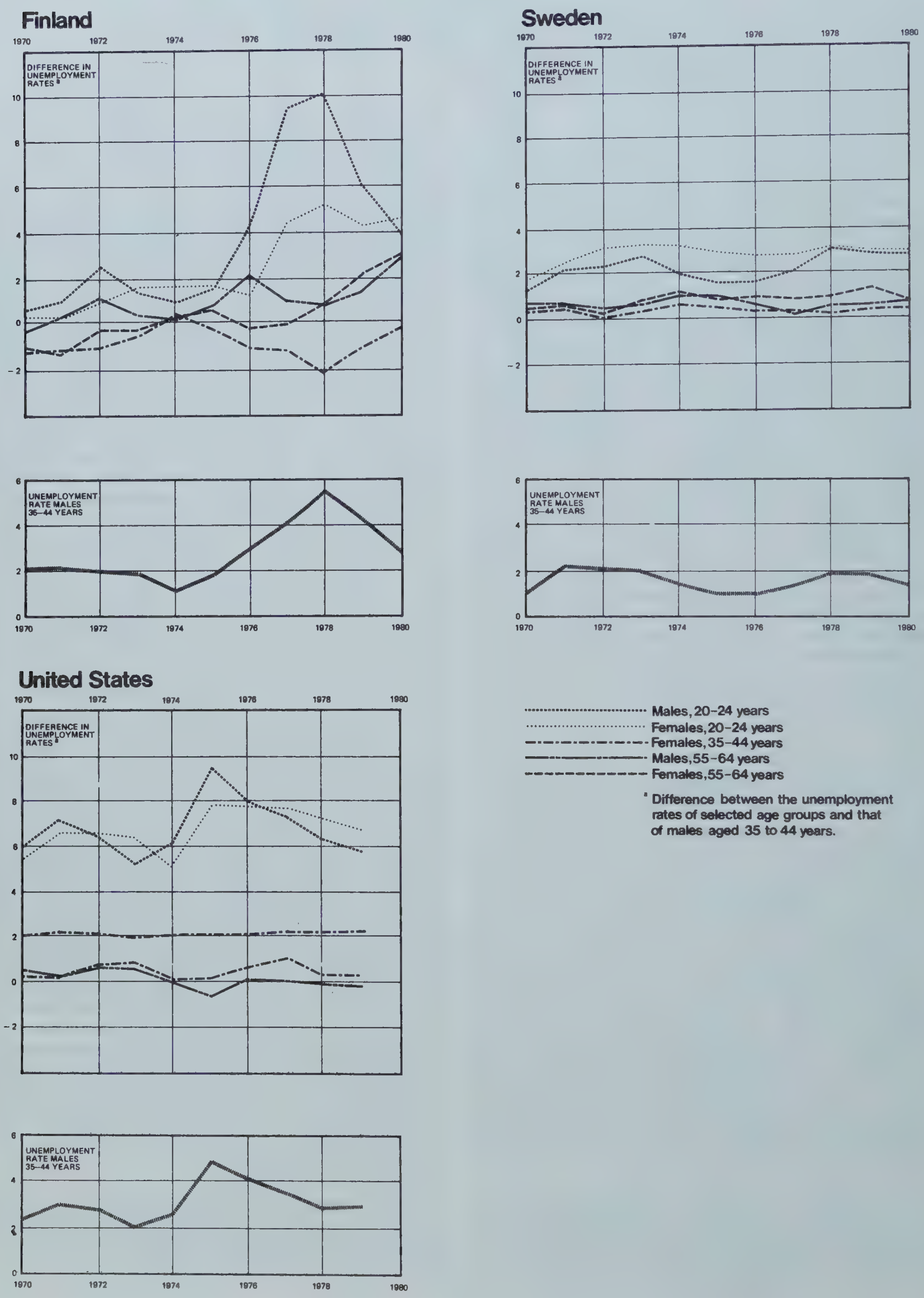
[32] Data on age-specific unemployment rates for other countries are available but not in a comparable form because of differences in age classifications or base populations or changes in definitions or procedures within the period considered.

CHART 1.1.3

**Differences between unemployment rates: selected age groups and males aged 35–44 years in selected countries, 1970–1980**



[a] Difference between the unemployment rates of selected age groups and that of males aged 35 to 44 years.

The charts also show that during periods of generally rising unemployment, unemployment rates tended to increase more for younger workers, so that the difference between their unemployment rate and that of men in the central age group widened. This is seen particularly when unemployment surged sharply upward in Finland between 1974 and 1978 and in the United States between 1974 and 1975. On the other hand, when general unemployment rates fell markedly, as in Finland after 1978 and in the United States after 1975, the response was also greatest among young workers.

However, the data also suggest certain differences between the sexes in that there may be some tendency for unemployment to rise more rapidly for young men than for young women at the beginning of a recession period and to reach a higher level. Thus, the difference between the unemployment rate for men 20–24 and the central group was rising in Finland between 1974 and 1976 and in the United States between 1973 and 1974, while that for women was falling. When the peak of unemployment was reached in both countries, the rate for young women remained significantly below that of young men. The figures for these two countries also suggest that when over-all unemployment drops, as it did in Finland after 1978 and in the United States after 1975, the fall is greater and more rapid among young men than among young women. Sweden presents a somewhat different case since there were no sharp rises in the general unemployment rate during the period studied against which the response of male and female youth unemployment could be assessed. The level of unemployment among young women was and remained above that of young men, although the gap between the two was closed when the unemployment rate for young men rose more than that for young women during the moderate upturn of unemployment in 1978.

While no firm conclusions can be drawn from the limited set of data presented here, they nevertheless reveal a number of interesting patterns of differential behaviour of male and female youth unemployment that would seem to merit further investigation.

The charts unfortunately throw little light on structural changes in youth unemployment. This is partly due to the distorting effect of the large fluctuations in unemployment, especially in the second half of the decade. In Sweden, where no large unemployment fluctuations occurred, there is no clear indication of a structural trend in youth unemployment. In Finland and the United States it is seen that after a period of recession the difference between the unemployment rate of young men and the general rate tended to return to about the same level as before. In contrast, the differential unemployment level of young women seems to have remained at a higher level than it held before the recession began, but whether this is the result of a delayed recovery from high unemployment or represents a structural deterioration in women's unemployment is not clear from these data.

However, a comparison for both countries of unemployment rates in the 1960s with the more recent trend, points to a relative worsening of the employment conditions of young women and also to some extent for young men. Data on the difference between the unemployment rates of young workers and males in the central ages, for various periods in the 1960s and 1970s are indicative in this respect:

| *Country* | *Period* | *Average unemployment rate for males 35–44 years* | *Average difference*[a] *between unemployment rate for males 35–44 years and:* | |
|---|---|---|---|---|
| | | | *Men 20–24 years* | *Women 20–24 years* |
| Finland | 1963–1966 | 1.6 | 1.3 | −0.7 |
| | 1967–1969 | 3.4 | 2.5 | −1.3 |
| | 1970–1975 | 1.8 | 1.4 | 1.0 |
| | 1976–1980 | 4.0 | 6.8 | 4.0 |
| United States | 1960–1963 | 3.9 | 5.5 | 5.2 |
| | 1964–1967 | 2.3 | 3.6 | 5.0 |
| | 1970–1974 | 2.6 | 6.2 | 6.4 |
| | 1975–1979 | 3.6 | 7.3 | 7.5 |

[a] Minus sign indicates a higher rate for males 35–44 years.

Comparisons for Finland of the differences for periods when average unemployment levels of males in the central ages were roughly similar, such as 1963–1966 and 1970–1975 and again 1967–1969 and 1976–1980, show an obvious deterioration in the relative position of young women and some deterioration for young men in the second half of the 1970s. Some evidence of a decline of the relative position of younger women also exists in the United States between 1960–1963 and 1975–1979 and also between 1964–1967 and 1970–1974. In the case of young men, similar tendencies to those for young women exist, although the relative worsening of unemployment for the former seems to have been more pronounced in the early 1970s.

As regards unemployment of women in the central ages, the most striking feature is the divergence of patterns between countries. In Finland the unemployment rate of women in the central age group was, except for one year, below that of men in the same age bracket. In addition, the difference between the two rates appeared to increase when male unemployment rose, thus implying a countercyclical movement of unemployment of women and an improvement of their relative position during recession. In contrast in the United States the female unemployment rate in this age group was substantially higher than that of males, but the difference between the two rates remained virtually the same throughout the decade, indicating that female unemployment moved up and down with male unemployment in the central ages by a constant fraction. In Sweden, female unemployment in the central ages was also higher than that for males, but the difference was relatively small and fluctuated between rather narrow limits.

The existence of a countercyclical effect with regard to unemployment in the older ages seems to manifest itself also to a certain extent in Finland, especially at the beginning of the 1975 to 1978 recession, and in the United States. The implication that unemployment in the older ages might not be as much affected by a rise in over-all unemployment,

TABLE 1.1.18

**Distribution of unemployed by age and sex: selected countries and years since 1970**

| | *Males* | | | | | | *Females* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Under 25* | *25–34* | *35–44* | *45–54* | *55 and over* | | *Under 25* | *25–34* | *35–44* | *45–54* | *55 and over* | |
| *Finland* | | | | | | | | | | | | |
| 1970[a] . . . | 34 | 19 | 17 | 18 | 12 | *100* | 49 | 20 | 13 | 12 | 6 | *100* |
| 1974 . . . | 36 | 20 | 40 | 19 | 11 | *100* | 38 | 18 | 17 | 19 | 8 | *100* |
| 1978 . . . | 38 | 27 | 15 | 14 | 6 | *100* | 40 | 24 | 13 | 14 | 9 | *100* |
| 1979 . . . | 34 | 28 | 15 | 16 | 7 | *100* | 36 | 25 | 13 | 15 | 11 | *100* |
| 1980 . . . | 33 | 25 | 15 | 18 | 9 | *100* | 35 | 25 | 13 | 15 | 12 | *100* |
| *Germany, Fed. Rep. of* | | | | | | | | | | | | |
| 1970 . . . | 20 | 25 | 22 | 16 | 17 | *100* | 27 | 25 | 20 | 18 | 10 | *100* |
| 1974 . . . | 22 | 25 | 22 | 16 | 15 | *100* | 29 | 28 | 17 | 15 | 11 | *100* |
| 1978 . . . | 20 | 22 | 21 | 17 | 20 | *100* | 27 | 28 | 17 | 15 | 13 | *100* |
| 1979 . . . | 21 | 24 | 19 | 17 | 19 | *100* | 26 | 28 | 17 | 15 | 14 | *100* |
| *Sweden* | | | | | | | | | | | | |
| 1970 . . . | 31 | 16 | 9 | 16 | 28 | *100* | 39 | 22 | 14 | 11 | 14 | *100* |
| 1974 . . . | 33 | 20 | 10 | 12 | 25 | *100* | 41 | 21 | 12 | 12 | 14 | *100* |
| 1978 . . . | 39 | 25 | 12 | 10 | 14 | *100* | 41 | 24 | 13 | 11 | 11 | *100* |
| 1979 . . . | 39 | 25 | 11 | 9 | 16 | *100* | 41 | 23 | 14 | 9 | 13 | *100* |
| 1980 . . . | 40 | 23 | 12 | 10 | 15 | *100* | 43 | 25 | 14 | 9 | 9 | *100* |
| *United States* | | | | | | | | | | | | |
| 1970 . . . | 48 | 18 | 11 | 11 | 12 | *100* | 48 | 18 | 14 | 12 | 8 | *100* |
| 1974 . . . | 52 | 20 | 10 | 9 | 9 | *100* | 50 | 20 | 12 | 11 | 7 | *100* |
| 1978 . . . | 50 | 22 | 10 | 9 | 9 | *100* | 48 | 24 | 13 | 9 | 6 | *100* |
| 1979 . . . | 50 | 22 | 11 | 9 | 8 | *100* | 48 | 24 | 13 | 9 | 6 | *100* |

[a] 1971 in the case of Finland.

however, cannot be clearly established on the basis of these data. Especially in the case of Finland, the later years in the decade suggest a relative deterioration, initially for women and subsequently for men, in these ages in comparison with unemployment of males in the central age group. In the case of Sweden no clear pattern of change of unemployment in these ages can be discerned.

Unemployment rates by age reflect only one dimension of the problem, namely that of the incidence of joblessness in the working population of given ages. Of at least equal importance, in terms of the economic and social impact of unemployment and policy measures in response to it, is the distribution of the unemployed among the different age groups. Table 1.1.18 presents such data for some countries for selected years since 1970.

Because of the limited number of countries represented, the results must be seen mostly as illustrative of different situations and conditions. It is obvious that in most countries unemployment amongst the young represents a disproportionate share of the total. In only one country, the Federal Republic of Germany, is the share of this group—here defined as persons under 25 years of age—relatively low, although it is still over 20 per cent for males and over 25 per cent for females. In the three other countries young persons constitute a larger proportion of the unemployed than does any other age group; in the United States the unemployed at these ages amounted in some years to half, or slightly more than half, of total unemployment. However, somewhat contrary to what might be expected, there is no evidence in the selected countries, except in the case of young men in Sweden, that the share of unemployment concentrated in this group is rising over time. In fact, the opposite trend is seen for women in Finland where the proportion of unemployed who are under 25 years of age has been falling.

Diverse patterns can be observed for persons 55 years of age and over, the other group most susceptible to higher unemployment. In Finland and the Federal Republic of Germany there is a clear rising trend for women in the proportions of unemployed in this age group, while for men the percentages in the older age groups appear to have decreased in the first part of the 1970s and then started to climb again. In the other two countries, the relative importance of older unemployed within the total has shown a tendency to decrease, very significantly so for males in Sweden.

The generally stable or declining proportions of unemployed who are in the younger and older age groups imply the existence of important increases in the central age groups. Such changes appear particularly among both men and women between 25 and 34 years. The percentage of unemployed in this age group has been increasing (except among males in the Federal Republic of Germany), and in all countries currently amounts to between one fifth and one fourth, or even somewhat more, of the unemployed. In contrast, for the 35 to 44 and 45 to 54 year age groups no such clear trend is discernible.

Evidence from other sources lends greater credence to some of the findings presented above, which, because of the small number of countries studied, are not in themselves sufficiently representative to permit the formulation of general conclusions. The greater sensitivity of youth unemployment to a downturn in economic conditions, as well as the more rapid decline of, at least, male youth unemployment once employment starts to recover, has been documented up to 1977 also in the United Kingdom.[33] Partial statistics for other countries[34] seem to confirm some of the features of the age patterns of unemployment described above. Data for Belgium, Canada, Denmark and France also suggest the rapid rise of youth unemployment in the early phases of recession. However, since in these countries over-all unemployment did not improve much after the recession, the decline of youth unemployment, observed in the three countries for which more detailed data were available, is not evident. Youth unemployment rates or the share of the young unemployed in the total, therefore, showed a tendency to rise even after the onset of the recession.[35] There is also some evidence that patterns in the Netherlands differed from those in Finland, Sweden and the United States, since in the former country youth unemployment continued to rise in the latter half of the 1970s.

On the other hand, most countries for which additional information is available also experienced a shift in the age distribution of the unemployed resulting in higher shares for the 25 to 34 or 25 to 39 year age group. For instance, in Belgium the percentage of persons 25–39 years old among the total unemployed increased from 17 to 31 per cent between 1970 and 1978. (In the same period the share of youth unemployment went up from 17 to 22 per cent.) A similar relative increase in the 25 to 34 year age group was found in Denmark between 1970 and 1978 (based on July unemployment data). In the case of France, unemployed in the 25 to 39 year age group represented less than 20 per cent of the total in 1970, but nearly 29 per cent in 1980. (In this country the share of the young unemployed in the total rose also by some 10 per cent.)

Whereas the, admittedly limited, data appear to point to certain significant age patterns of unemployment and changes in them during the past decade, there are reasons, in addition to the scarcity of statistical information, for interpreting the findings with caution. As noted earlier, a number of variables are likely to influence the incidence of unemployment in the various age groups and changes in them. Apart from other factors, a large inflow of young persons into the working ages is known to substantially affect unemployment in these ages. This seems to have been the case, for instance, in the Netherlands. The trend toward increasing participation of women in the labour force seems to have persisted despite deterioration of their relative unemployment position in most countries in the 1970s, and this may account, at least in part, for the rising share of the unemployed in the 25 to 34 year age group (for example, in Belgium). On the other hand, a high incidence of unemployment may have discouraged other groups of workers enough to induce them to leave the labour force or not to register as unemployed. The levelling off of high youth unemployment rates in recent years in some countries may point to such an effect. Another manifestation of this tendency may have been the countercyclical movement in unemployment amongst the older working population in Finland, which coincided with substantial declines of the labour force in these ages. The countercyclical behaviour of unemployment of women in the central ages in Finland may also be in part due to workers withdrawing from the labour force as unemployment increased. Despite many uncertainties, the conclusion seems to be justified that age patterns of unemployment and their changes are sufficiently important to warrant their further investigation, with a view to promoting the formulation and implementation of appropriate policies for dealing with the problems they present.

### (c) *The cost of unemployment*

Unemployment has been rising throughout most of the 1970s but it is only at the levels reached in the past year that there has been a noticeable increase in the pressure on governments to give the reduction of unemployment priority over the reduction of inflation. This increased pressure for a shift in priorities is not only due to the greater number of the unemployed but also to changes in its composition (see previous section) and its duration. The cost of unemployment is of course the loss of national output, which in many countries is now considerable,[36] but the way this cost is borne by different sectors has important implications for welfare and for policy. Two aspects are of particular concern at the present time.

The first concerns the hardship suffered by those who have lost their jobs: it has been argued that the level of unemployment benefits in relation to the previous income of the unemployed is now so high as to provide a major disincentive to work, but this claim is rejected by others and the empirical basis for such arguments remains controversial. The second aspect concerns the impact of unemployment on net government expenditure at a time when the reduction of public financial deficits has been allocated an important role in the wider macroeconomic strategies to reduce inflation. This section attempts to throw some light on these issues by providing estimates of the cost of unemployment to the individual and of its impact on government revenues and expenditure.

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[33] P. Makeham, "The anatomy of youth unemployment" in *Employment Gazette*, March 1980, pp. 234–236.

[34] These data were not comparable, mostly because of the age classifications used, with those of the four selected countries and, therefore, were not included in the table.

[35] In some of these countries, Belgium and France especially, the rapid decline in the percentage of older unemployed workers, who in 1970 still accounted for a large share of the total, has obviously affected the proportional shares in the total of other age groups.

[36] For example the loss of output in the United Kingdom in 1980 due to 1.8 million unemployed has been estimated at about 4 per cent of GDP. Manpower Services Commission, *Review of Services for the Unemployed*, London, March 1981.

The cost of unemployment to the individual is defined here as the difference between his previous disposable income and the total of all benefits and allowances received on becoming unemployed: the ratio of such benefits to previous income is widely known as the "replacement ratio". The cost to the government sector is taken to be the sum of the benefit paid to the unemployed and the loss of revenue from direct and indirect taxes and social security contributions—multiplier effects on revenue due to lower personal and corporate incomes in the rest of the economy are ignored in this exercise.[37] However, there are considerable difficulties in estimating these costs: benefits are increasingly related to previous earnings in many countries and the impact of unemployment on government revenue depends not only on the previous income of the unemployed but also on his marital status, family size, duration of employment, and so on. In these circumstances the least complicated and most common approach has been to compute the cost for a "typical worker" who is usually defined, *a priori*, as a male production worker in manufacturing industry, married to a non-working wife with two children.[38] The main reason for the widespread use of this definition is the ready availability of tax schedules for this family group, but it is subject to a number of drawbacks: first it introduces a bias into the estimates since the income and family status of the "typical" employed worker are not the same as the average unemployed person[39] and secondly it does not take into account the high levels of youth and female unemployment, which have been the fastest growing components of both the contemporary labour force and of unemployment.

A more accurate estimate of the costs of unemployment would therefore be based on a weighted average of the occupational, marital and sex categories of the unemployed. However, this alternative approach—which hereafter is referred to as the "*average unemployed*" method—requires considerably more data and detailed analysis than the "typical worker" approach. Thus while estimates on the latter basis were possible for 14 countries, the alternative estimates were made only for Finland and the United Kingdom, mainly because these were two countries where the basic data were readily available. Although the estimates based on the "average unemployed" method for these two countries are probably more accurate than those based on the "typical worker" method, they are still subject to a number of qualifications: because of data limitations it had to be assumed that the duration of unemployment was one year, which is not the case for the majority of unemployed, even if duration is increasing; the calculation of revenues foregone and of earnings-related benefits could only be based on grouped data; the ratio of indirect tax to disposable income was based on national averages and the reduction in purchasing power was assumed to be proportionate to the reduction in disposable income,[40] which can underestimate the loss in government revenue since the former worker's consumption pattern is likely to change after he loses his job, especially if he is unemployed for long spells; unemployment is assumed to occur exclusively in the private sector to simplify estimation of costs incurred by the government; and the available data did not permit an analysis of specific age groups.

### *The cost of unemployment to the unemployed*

In all the countries considered here unemployment benefits are adjusted for inflation, albeit in some cases at intervals of one year, and thus the real value of benefits has been more or less maintained over time. However, at all levels of earnings the benefits are lower than the previous take-home pay of the unemployed. This loss of purchasing power due to unemployment is the economic cost of unemployment to the unemployed *per se*. The replacement rate (RR), or unemployment benefits as a proportion of the previous disposable income of the unemployed, and its inverse (i.e. 1-RR) which shows the loss of purchasing power, was estimated for 13 west European countries and the United States for the 1972–1980 period. The first part of table 1.1.19 shows the replacement rate for 14 countries estimated on the basis of the "typical worker" assumption and it is clear that the rate varies significantly among countries. Thus in 1980 a "typical worker" becoming unemployed lost only about 5 per cent of his last disposable income in Denmark and France and 10 per cent in the Netherlands (1979),

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[37] Unemployment may entail other private and social costs which could also effect public expenditure. A study of the United States concluded "that changing labour-market opportunities are sufficient to explain increasing crime rates for youth" (cf. Llad Phillips and Harald L. Votey, jr., "Crime, Youth and the Labour Market", *Journal of Political Economy*, 1972, pp. 491–504). It has also been claimed that unemployment may lead to a greater incidence of physical and mental ill health, but this is a much more controversial issue with doubt cast over the direction of causality (cf. Sue Ramsden and Clive Smee, "The health of unemployed men: DHSS cohort study", Department of Employment, *Employment Gazette*, London, September 1981, pp. 397–401).

[38] For example see: OECD, *Unemployment Compensation and Related Employment Policy Measures*, Paris, 1979; S. Mukherhee, *Unemployment Costs*, PEP vol. XLII, Broadsheet No. 561, London, 1976; K. Holden and D. Peel, "The Benefit/Income Ratio for Unemployed Workers in the United Kingdom", *International Labour Review*, vol. 118, No. 5, Geneva 1979. The cost has sometimes been compiled for broader occupational categories such as average male manual workers or for workers with different characteristics, such as single-males or married-males without children. However, the definition quoted above is the one most frequently used and is the one denoted by the term "*typical worker*" throughout the rest of this section.

[39] For example, in 1980 the "typical worker", as defined above, accounted for 15 per cent of total unemployment in Finland and 10 per cent in the United Kingdom. Moreover, changes in the structure of the labour force in recent years have made this definition increasingly untypical in a statistical sense: in the United Kingdom the "typical worker" accounted for only 5 per cent of the total labour force in 1979 (cf. *General Household Survey 1979*, HMSO: 1981). In the Netherlands, the "typical worker", defined as a married male employee with two children under 16 years of age, also accounted for about 5 per cent of all employees. See G. Joosten, "Ontwikkeling van de reële lonen in de periode 1972–1979", *Economisch Statistische Berichten*, 4 March 1981, No. 3295, p. 217.

[40] That is, the ratio of indirect taxes to net unemployment benefit is assumed to be the same as their ratio to the unemployed's previous disposable income.

TABLE 1.1.19

**Rate of disposable income replacement**[a]
(*Per cent*)

| | *1972* | *1974* | *1976* | *1977* | *1978* | *1979* | *1980* |
|---|---|---|---|---|---|---|---|
| A. *Unemployed "typical worker"* | | | | | | | |
| Austria[b] | 50.5 | 50.0 | 49.7 | 50.3 | 50.9 | 52.7 | 51.6 |
| Belgium | 63.7 | 64.8 | 65.8 | 66.2 | 66.7 | 66.0 | 66.4 |
| Denmark[c] | 82.5 | 88.2 | 89.7 | 88.9 | 90.1 | 92.8 | 95.0 |
| Finland[d] | 58.2 | 57.9 | 57.7 | 56.7 | 54.5 | 48.2 | 45.4 |
| France[e] | 84.7 | 89.0 | 90.6 | 91.2 | 91.6 | 92.2 | 93.8 |
| Germany, Federal Republic of | 70.0 | 70.4 | 73.3 | 72.0 | 71.5 | 71.1 | 69.0 |
| Ireland | .. | .. | 83.1 | 84.1 | 81.5 | 81.7 | 81.7 |
| Italy[e] | 43.6 | 41.4 | 43.6 | 45.1 | 46.4 | 47.7 | 46.7 |
| Netherlands[f] | 85.0 | 87.9 | 89.0 | 89.8 | 88.3 | 88.5 | .. |
| Norway[b,g] | 63.0 | 64.3 | 64.5 | 62.7 | 62.8 | 62.8 | 64.2 |
| Sweden[h] | 69.1 | 67.2 | 81.5 | 79.8 | 80.5 | 81.5 | 80.3 |
| Switzerland[b] | 77.3 | 80.8 | 79.4 | 79.9 | 80.1 | 79.4 | 79.9 |
| United Kingdom[i] | .. | 62.4 | 64.3 | 64.0 | 58.9 | 49.9 | 48.2 |
| United States[j] | 58.9 | 60.1 | 59.9 | 59.4 | 60.7 | 60.8 | 61.4 |
| B. *"Average unemployed"* | | | | | | | |
| Finland[d] | .. | 76.1[k] | 76.0 | 74.9 | 69.3 | 60.0 | 56.0 |
| United Kingdom[i] | .. | 51.5[k] | 52.5 | 53.2 | 51.7 | 44.2 | 42.1 |

*Sources:* For unemployed "typical worker": Bundesanstalt für Arbeit, *Employment Policy in Germany–Challenges and Concepts for the 1980s*, Nürnberg, 1980; Commission of the European Communities, *Comparative Tables of the Social Security Systems in the Member States of the European Communities*, various issues, Luxembourg; M. Culus and M. H. Konings, "Evolution des effectifs et des revenus des chômeurs complets indemnisés de 1953 à 1976", *Cahiers Economiques de Bruxelles*, No. 81, 1º trimestre, Bruxelles, 1977; ILO, *Social Security for the Unemployed*, Geneva, 1976; A. Mittelstädt, "Unemployment Benefits and Related Payments in Seven Major Countries", OECD *Economic Outlook, Occasional Studies*, July 1975, Paris; R. Neuhaus, *Social Security, How it Works in the Federal Republic of Germany*, Brunswick, 1979; OECD, *Revenue Statistics of OECD Member countries*, various issues, Paris; OECD, *The Tax/Benefit Position of a Typical Worker*, various issues, Paris; OECD, *The Treatment of Family Units in OECD Member Countries under Tax and Transfer Systems*, Paris, 1977; OECD, *Unemployed Compensation and Related Employment Policy Measures, General Report and Country Studies: Canada, France, Germany, Sweden, United Kingdom, United States*, Paris, 1979; UN *Yearbook of National Accounts Statistics*, 1979, vol. 1, New York, 1980.

For "average unemployed": Finland: Communications with the Ministry of Labour of Finland; Sosiaali-ja terveysministeriö, Sosiaalisia Erikoistutkimuksia, *Sosiaalimenot vuonna*, various issues, Helsinki; *Tulojen uudelleenjako Suomessa vuonna, 1976*, Helsinki, 1979; Tilastokeskus, *Kansantalouden tilinpito 1975–1980*, Helsinki, 1981; *Suomen tilastollinen vuosikirja*, various issues, Helsinki; *Tulo-ja varallisuustilasto*, various issues, Helsinki; Työvoimaministeriö, *Jyövoimakatsaus*, various issues, Helsinki. United Kingdom: Communications with the Department of Health and Social Security; Central Statistical Office *Annual Abstract of Statistics*, various issues, HMSO, London; *Economic Trends*, various issues, HMSO, London, *Social Trends*, various issues, HMSO, London; Department of Employment, *Employment Gazette*, various issues, HMSO, London; Department of Health and Social Security, *Social Security Statistics*, various issues, HMSO, London.

[a] Rate of disposable income replacement = unemployment benefits (including all benefits and allowances for the unemployed) as a percentage of former disposable income of the unemployed. All benefits are net of tax and are estimated for a period of unemployment of one year.

[b] Ratio of unemployment benefits to former gross earnings in 1975 kept constant for the period.

[c] According to an unpublished document prepared by the Ministry of Labour, the maximum daily cash benefit (excluding all other benefits) paid to the unemployed was 78 per cent of the average daily pay, including all supplements, between 1977 and 1981. However, as the data by occupation were not available the ceiling rate for gross benefits (90 per cent of former earnings) was used in the "typical worker" calculation of this study. In Denmark benefits are taxable.

[d] Benefits exclude allowances for rent, clothing and transportation.

[e] When redundancy is due to economic reasons, i.e. cessation of the enterprise or reduction in staff. If the unemployment was due to other reasons the replacement ratio for France would be 60.2 in 1972 and 66.7 in 1980, and for Italy 17.7 in 1972 and 18.9 in 1980.

[f] Disposable income includes private pension contributions.

[g] Unemployment benefits exclude travel and removal allowances, contributions to sickness, family and pension schemes.

[h] The ratio of unemployment benefits to gross earnings was increased in 1975 (maximum 11/12 of former gross earnings) and family supplements ceased. Benefits from 1975 onwards are taxable.

[i] Benefits exclude allowances for school meals, free milk and rent rebates.

[j] Benefits exclude dependants' supplements as they vary significantly among states.

[k] 1975.

while in Austria, the United Kingdom, Finland and Italy his purchasing power fell by about one half.

The replacement rate has also changed over time in many of the countries. During the 1970s it rose markedly in Denmark, France, Sweden (after 1975) less sharply in Italy, and deteriorated significantly in the United Kingdom and Finland. For the remaining countries, the rate was more or less constant over the period, which means that benefits were adjusted not only in line with the rise in prices, but also with the increase in average earnings.

In the lower part of the table the alternative estimates for the replacement rate in Finland and the United Kingdom, based on the "average unemployed" method, show a similar sharp deterioration although levels are considerably different. For example, comparing the replacement ratio in 1980 based on the "average unemployed" with that based on the "typical worker" it can be seen that the cost of unemployment according to the former estimate is 20 per cent higher than the latter in Finland and 15 per cent less in the United Kingdom. The higher value for the "typical worker" estimate in Finland is because benefits are not earnings related, and the average unemployed's previous income is some 25 per cent lower than that of the "typical worker". In the United Kingdom a part of the benefits are earnings related and the gross earnings of the "average unemployed" were 16 per cent lower than those of the "typical worker" in 1980.

Between 1975 and 1980 the cost of being unemployed (1-RR) increased more sharply in Finland than in the United Kingdom, although in each year the replacement ratio was higher in Finland than in the United Kingdom. For example, in 1975 an "average unemployed" person was losing almost half his purchasing power in the United Kingdom and one quarter in Finland. Despite a sharper fall in the ratio in Finland, the cost of being unemployed in 1980 was still some 30 per cent higher in the United Kingdom.

The estimates in the first part of table 1.1.19 show that in more than half the countries a "typical worker" in the 1970s lost between 30 and 60 per cent of his purchasing power on becoming unemployed. Despite their sensitivity to different methods of calculation, these estimates nevertheless indicate the high cost of losing one's job. Moreover it should be recalled that not all the unemployed are eligible for unemployment benefits. For example, in the United Kingdom the number entitled to benefits (excluding those receiving only supplementary allowances) fell from around 50 per cent of total registered unemployed in 1975–1976 to 35 per cent in 1978/79.[41] In 1980 in France[42] and Finland,[43] those entitled to benefits were around 60 and 70 per cent respectively of the total registered unemployed. Furthermore, not all of the unemployed are registered. In 1979 and 1980 in the United Kingdom, official estimates show that unregistered unemployment exceeded 300,000 persons, 75 per cent of whom were women, many of whom were looking for part-time work.[44] In the Federal Republic of Germany, in 1979, there were 876,000 persons registered as unemployed and a further 533,000 who were unemployed but unregistered, the latter being referred to as the "hidden reserve".[45] For those who are registered as unemployed but not entitled to benefits and for the unregistered unemployed, the cost of unemployment is equivalent to their entire previous net earnings. Thus the average replacement ratios for all unemployed persons are actually lower than those given in table 1.1.19, the size of the difference in each country depending on the entitlement ratio and the share of total unemployment which is unregistered. It has been argued that the improvement of unemployment benefits over the past 25 years or so has tended to raise levels of unemployment for a given level of economic activity: those previously outside the labour force are encouraged to register as unemployed in order to qualify for benefits and the length of unemployment is increased as a result of the rise in the reservation wage. The data presented here cannot, of course, throw any light on the question of whether or not the "full-employment rate of unemployment" has been increased by the long-run improvements in benefits. But the fact that for the majority of countries considered the replacement ratio has either remained unchanged or has fallen since 1972 suggests that unemployment benefits have had little to do with the *increase* in unemployment since 1974.

### *The cost of unemployment to the government*

The direct costs of unemployment to the general government sector consist not only of the benefits paid to the unemployed but also of the fall in revenue due to the taxes and social security contributions previously paid by the unemployed. The estimates given here refer only to the direct impact of an unemployed worker on government revenue: they do not take into account the additional fall in government revenue due to the multiplier effects of the initial fall in private disposable income. In the estimates in tables 1.1.20 and 1.1.21, income tax includes both central and local government taxes on income, and only tax reliefs which apply to all workers are taken into account. Indirect taxes include all taxes other than import duties levied on the sale, leasing or production of goods or services; thus they include multi-stage cumulative taxes, value-added and sales taxes. The loss of indirect tax revenue is the difference between the taxes paid by the employed and by the unemployed worker in the same income group; due to data limitations, the share of total indirect taxes in national disposable income had to be applied to all categories of worker. The reduction in purchasing power due to unemployment is assumed to be proportionate to the reduction in disposable income. This assumption may underestimate the loss to the government as the former worker's consumption pattern is likely to change after he loses his job: the share of food consumption in total consumption increases while that of luxury goods and consumer durables, for which tax per unit value of production is higher, falls. However, even on the assumption that the indirect taxes paid by the unemployed were zero, the effect on the estimates in table 1.1.20 is negligible.

The composition of the estimated total cost to government of an unemployed person entitled to benefits is shown in table 1.1.20 for 1980. In the upper part of the table, where the estimates are based on the "typical worker", the revenue loss is 40 per cent or more of total cost in 9 out of the 14 countries. In Austria, Switzerland, Norway and the United Kingdom the revenue loss is almost as large as the benefit expenditure, and in Belgium, Finland and Italy, the revenue loss is actually larger than the expenditure on benefits.

Comparing the results of the two methods of estimation for Finland and the United Kingdom, the share of lost revenue in total cost according to the "average unemployed" assumption is 24 per cent higher than the "typical worker" estimate in Finland and 9 per cent lower in the United Kingdom. However, these differences do not affect the over-all

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[41] Department of Employment, *Employment Gazette*, HMSO; London, various issues. Entitlement rates would be around 80 per cent for both periods if those receiving only the supplementary allowances were also taken into account.

[42] Conseil Economique et Social, *Journal Officiel*, 5 septembre 1981.

[43] Communication with the Ministry of Labour.

[44] Department of Employment, *Employment Gazette*, HMSO; London, August 1981.

[45] Bundesanstalt für Arbeit, *Employment Policy in Germany–Challenges and Concepts for the 1980s*, Nürnberg, 1980.

TABLE 1.1.20

**Composition of total estimated cost of unemployment to government[a] for an unemployed person entitled to benefits, 1980**

| | *Income tax* (*1*) | *Social security contributions*[b] (*2*) | *Indirect tax* (*3*) | *Total revenue loss* (*4*) = (*1*)+ (*2*)+(*3*) | Unemployment benefit (*5*) |
|---|---|---|---|---|---|
| A. *Unemployed "typical worker"* | | | | | |
| Austria | 8.7 | 36.1 | 4.5 | 49.3 | 50.7 |
| Belgium | 8.8 | 41.5 | 2.1 | 52.4 | 47.6 |
| Denmark | 2.4 | 6.0 | — | 8.4 | 91.6 |
| Finland | 33.8 | 12.8 | 5.2 | 51.8 | 48.2 |
| France[c] | —[d] | 36.1 | 0.4 | 36.5 | 63.5 |
| Germany, Federal Republic of | 10.2 | 32.1 | 1.6 | 43.9 | 56.1 |
| Ireland | 14.1 | 14.4 | 0.9 | 29.4 | 70.6 |
| Italy[c] | 9.7 | 48.1 | 2.7 | 60.5 | 39.5 |
| Netherlands | 4.2 | 36.9 | 0.3 | 41.4 | 58.6 |
| Norway | 18.9 | 24.6 | 3.6 | 47.1 | 52.9 |
| Sweden | 2.0 | 31.1 | 1.3 | 34.4 | 65.6 |
| Switzerland | 27.0 | 21.9 | 0.7 | 49.6 | 50.4 |
| United Kingdom | 22.6 | 24.5 | 1.8 | 48.9 | 51.1 |
| United States | 11.6[d] | 17.3 | 1.0 | 29.9 | 70.1 |
| B. *"Average unemployed"* | | | | | |
| Finland | 25.9 | 11.9 | 4.1 | 41.9 | 58.1 |
| United Kingdom | 24.9 | 26.2 | 2.3 | 53.4 | 46.6 |

*Sources:* As for table 1.1.19.

[a] Total cost in the sum of revenues forgone plus the expenditure on unemployment benefit. Administrative costs are excluded.

[b] Total of employer's and employee's contributions.

[c] Estimates refer to unemployment due to "economic reasons", i.e. cessation of enterprises or reductions in staff.

[d] Excluding local income taxes.

TABLE 1.1.21

**Composition of total estimated cost of unemployment to government[a] for an "average unemployed" in Finland and the United Kingdom, 1975–1980**

| | *Income tax* (*1*) | *Social security contributions*[b] (*2*) | *Indirect tax* (*3*) | *Total revenue loss* (*4*)=(*1*)+ (*2*)+(*3*) | *Unemployment benefit* (*5*) |
|---|---|---|---|---|---|
| *Finland* | | | | | |
| 1975 | 25.3 | 13.2 | 1.4 | 39.9 | 60.1 |
| 1976 | 23.9 | 13.6 | 1.4 | 38.9 | 61.1 |
| 1977 | 23.7 | 13.4 | 1.7 | 38.8 | 61.2 |
| 1978 | 24.1 | 12.6 | 2.3 | 39.0 | 61.0 |
| 1979 | 24.3 | 12.5 | 3.6 | 40.4 | 59.6 |
| 1980 | 25.9 | 11.9 | 4.1 | 41.9 | 58.1 |
| *United Kingdom* | | | | | |
| 1975 | 24.9 | 19.4 | 1.8 | 46.1 | 53.9 |
| 1976 | 26.3 | 19.5 | 1.7 | 47.5 | 52.5 |
| 1977 | 24.0 | 18.8 | 1.5 | 44.3 | 55.7 |
| 1978 | 23.9 | 22.0 | 1.8 | 47.7 | 52.3 |
| 1979 | 24.9 | 24.4 | 2.2 | 51.5 | 48.5 |
| 1980 | 24.9 | 26.2 | 2.3 | 53.4 | 46.6 |

*Source:* As for table 1.1.19. *Footnotes:* As for table 1.1.20.

picture, namely, that a major share of the total cost of unemployment to governments is due to the loss of revenue.

Changes in the composition of the costs of unemployment to governments and of the total cost per unemployed in constant prices were estimated for Finland and the United Kingdom with the "average unemployed" method. This was not done for all countries using the "typical worker" method as the composition of the unemployed influences the average total cost per unemployed and thus changes based on this approach would not necessarily indicate changes in total cost due to changes in total unemployment.

The last two columns of table 1.1.21 indicate that the composition of the total cost per "average unemployed" has been fairly stable in Finland with around 60 per cent due to transfer payments and the rest to lost revenues. In the United Kingdom on the other hand, the share of revenues foregone in total cost has increased steadily, from 46 per cent in 1975 to 53 per cent in 1980. This change in the cost structure in the United Kingdom, which accelerated from 1979, may be due, at least in part, to a rising proportion of better paid workers in total unemployment.

The following text table shows the trend in the total cost of unemployment incurred by the government per "average unemployed". In both countries total cost per head declined by 8 per cent between 1975 and 1980. However, while in Finland it declined rather steadily, in the United Kingdom the decline was sharper from 1979:

**Total cost of unemployment to government[a] for an "average unemployed" entitled to benefits, in 1975 constant prices, in Finland and the United Kingdom, 1975–1980**

*(1975 = 100)*

| | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* |
|---|---|---|---|---|---|---|
| Finland . . . . | 100.0[b] | 101.9 | 99.2 | 98.0 | 94.3 | 92.1 |
| United Kingdom | 100.0[b] | 104.0 | 99.9 | 99.5 | 93.7 | 91.9 |

*Sources:* As for table 1.1.19

[a] See table 1.1.20, note *a.*

[b] Total estimated cost is MK 18,576 for Finland and £2,056 for the United Kingdom.

How do these costs of an unemployed worker compare with the gain that would accrue to net government revenue on his being re-employed? In the following table the income gained by the government sector when an unemployed "typical worker" goes back to work is expressed as a percentage of the "typical worker's" former gross earnings:

**Total cost of unemployment[a] to government of an unemployed worker entitled to benefits as a percentage of the unemployed worker's former gross earnings, 1980**

| | | | |
|---|---|---|---|
| A. *Unemployed "typical worker"* | | | |
| Austria . . . . | 93.7 | Italy[b] . . . . | 106.4 |
| Belgium . . . . | 126.0 | Netherlands . . | 119.1 |
| Denmark . . . . | 70.0 | Norway . . . | 94.6 |
| Finland . . . . | 73.1 | Sweden . . . | 90.2 |
| France[b] . . . . | 141.8 | Switzerland . . | 104.3 |
| Germany, Fed. Rep. of . . . . | 97.8 | United Kingdom | 81.5 |
| Ireland . . . . | 97.2 | United States . | 71.2 |
| B. *"Average unemployed"* | | | |
| Finland . . . . | 79.4 | United Kingdom | 76.2 |

*Sources:* As for table 1.1.19

[a] See table 1.1.20, note *a.*

[b] For unemployment due to "economic reasons", i.e. cessation of the enterprise or reduction in staff. If the unemployment was due to other reasons in France and Italy, total cost as a percentage of former gross earnings would be 118.3 and 82.9 respectively.

In Belgium, France, Italy, the Netherlands and Switzerland, through increased income from taxes and social security contributions and reduced expenditure on benefits, governments gain sums greater than the former gross earnings of the unemployed "typical worker" when he obtains a job. Hence, in these countries, if the unemployed "typical workers" were given jobs in the public sector at their previous level of earnings, the impact on the government deficit would be less than if they had remained unemployed and receiving benefit. This calculation refers only to wage costs and therefore assumes that the complementary costs of creating jobs are lower than the size of the financial gain to the government. In none of the countries would governments incur additional wage costs if the unemployed "typical worker" were employed at not less than 70 per cent of his former gross earnings. For the majority of the countries this zero-additional cost level of earnings is not below four fifths of the former gross earnings of a "typical worker". These conclusions do not change to any great extent if the "average unemployed" method is used instead of the "typical worker" approach for Finland and the United Kingdom, as the revenues foregone in the nominator change in the same direction, more or less proportionately, with the gross earnings in the denominator.

Changes in the estimated cost of unemployment to governments and its components are shown in chart 1.1.4 for Finland and the United Kingdom. This confirms the results of the previous table and of table 1.1.21, namely, that the real cost per head has declined in both countries, in Finland due both to lower benefits and to a decline in the amount of lost revenue and in the United Kingdom to lower transfer payments. In other words, the earnings level at which the "average unemployed" could be employed without generating additional pay-roll expenditure by the government declined in both countries. According to these estimates, the level of gross earnings in 1980 required to re-employ the unemployed with zero additional pay-roll expenditure is around 75 per cent of previous gross earnings of the "average unemployed" in the United Kingdom and 80 per cent in Finland. In other words, if the "average unemployed" were to be employed in the public sector at these levels of earnings, the wage costs incurred would not exceed the cost of keeping them on unemployment benefit. These estimates, even though they exclude the non-wage expenditure required for creating jobs, are significant from the employment policy point of view.[46]

In fact several west European governments have introduced extensive unemployment relief measures to maintain or create jobs rather than keeping the unemployed on benefits.[47]

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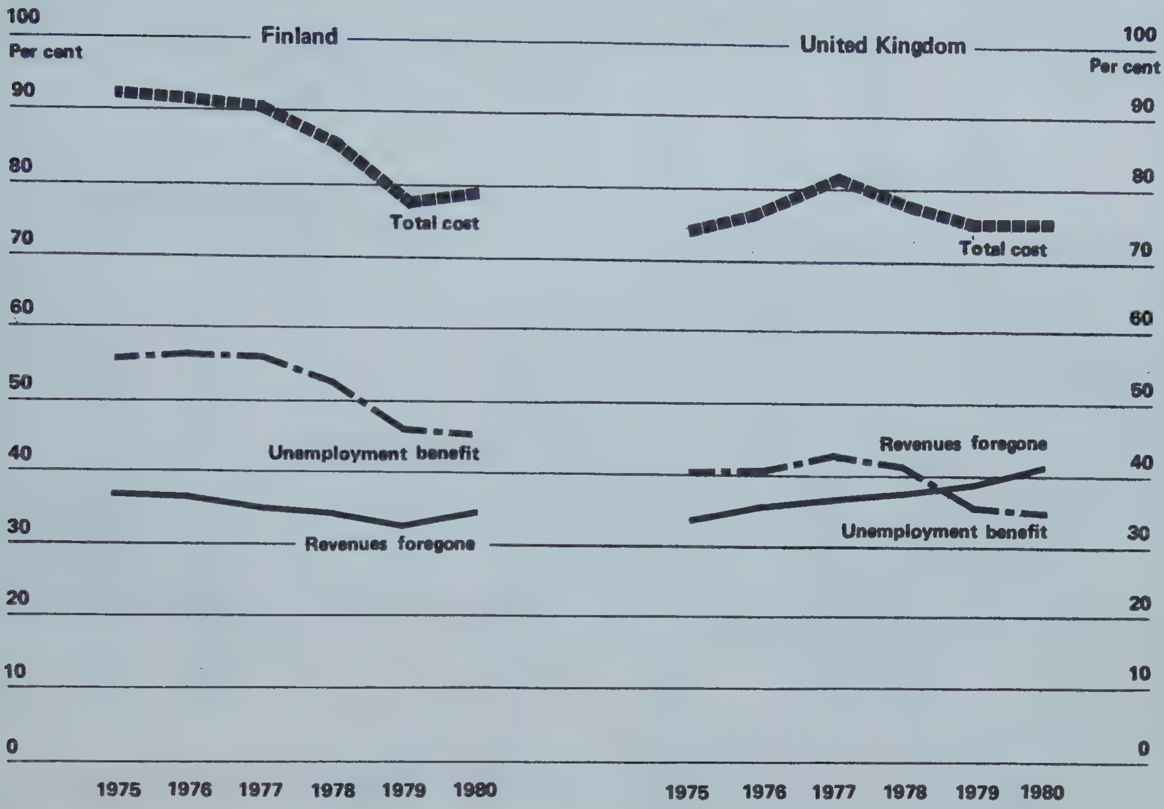
[46] In the United Kingdom, in the financial year of 1978/79, the average real net cost of providing or retaining each job was only £260 compared with the gross cost of £1,490. (The 13th Report from the Expenditure Committee, 1977–1978 Session–*People and Work*, Vol. 1, Commons Paper 647–1.)

[47] An outstanding labour market relief policy is to be found in Sweden. In 1979, total unemployment was 93,000 people. However, there were 50,000 people employed in relief work and another 50,000 people in re-training courses. This implies that, in the absence of these measures, the unemployment rate in Sweden would be 4.6 per cent instead of the actual 2.2 per cent. (Ministry of Economic Affairs, *The Swedish Budget 1980/81*, Stockholm 1980.)

CHART 1.1.4

**Total cost to government per "average unemployed" person in Finland and the United Kingdom, 1975 to 1980**
(*Per cent of former gross earnings*)



*Source:* As for table 1.1.19.

*Cost of total unemployment to government*

All the discussion so far has been in terms of the cost per unemployed person. The total loss of government revenue has been estimated by applying the ratio between revenue foregone and benefits paid for an individual (based on the last two columns of table 1.1.20) to the total expenditure on unemployment benefit. The sum of estimated revenue loss and expenditure on benefits is then the estimated direct cost of total unemployment. To place these estimates in a perspective where their relative orders of magnitude can be easily appreciated, total cost is expressed in the following table as a proportion of the total current expenditure of general governments:

**Cost of total unemployment to government, as a percentage of total current expenditure by the general government sector in 1980**

| | | | |
|---|---|---|---|
| Belgium . . . . | 10.4 | Germany, Fed. Rep. of | 1.8 |
| Denmark . . . . | 6.3 | Ireland . . . . . . | 3.1 |
| Finland[a] (A) . . . | 5.4 | Italy . . . . . . | 2.4 |
| (B) . . . | 4.5 | Netherlands . . . . | 5.3 |
| France . . . . . | 5.3 | United Kingdom[a] (A) | 7.5 |
| | | (B) | 5.5 |

*Sources:* As for table 1.1.19, plus Commission of the European Communities, *European Economy*, July 1981, Brussels, 1981; Eurostat, *Social Protection*, 2–1981, Luxembourg, 1981; International Monetary Fund, *International Financial Statistics*, Washington, September 1981; Valtiovarainministeriön Kansantalousosasto, *Taloudellinen Katsaus, 1981*, Helsinki, 1981.

[a] (A) Cost of total unemployment on the basis of the "typical worker" method.
(B) Cost of total unemployment on the basis of the "average unemployed" method.

The cost of unemployment is thus a major burden on general government finances in most of the countries here, although inter-country differences are large. However, the qualifications to these estimates should be recalled. A tendency for the "typical worker" method of calculation to overestimate the cost of unemployment is suggested by the alternative estimates for Finland and the United Kingdom. On the other hand, the exclusion from both sets of estimates of the revenue loss due to the unregistered unemployed will tend to underestimate the total cost. To obtain some indication of the possible order of magnitude of this latter bias a further calculation was made for Finland and the United Kingdom in which it was assumed that an unregistered unemployed person produced the same loss in government revenue as a registered unemployed. On this assumption the (B) estimates of relative total cost would be raised to 5.6 per cent in Finland and 6.3 per cent in the United Kingdom. This last adjustment brings the estimate based on the "average unemployed" method back towards the original "typical worker" estimate, particularly in Finland. Thus, because of these opposing biases the "typical worker" method of calculating total unemployment costs, although *a priori* an unsatisfactory method, may not always produce exaggerated estimates in comparison with the "average unemployed" approach which is conceptually superior.

### (iv) Costs and Prices

After an acceleration beginning in the second quarter of 1980, the rise in average *nominal hourly earnings* in west European manufacturing industry levelled out in the first quarter of 1981 and then decelerated. The average rise in 1980 was almost 12 per cent compared with 9.5 per cent in 1979 (table 1.1.22). In 1981 the year-on-year increase was 11.6 per cent in the first quarter, fell to 10.7 per cent in the second and, in the countries for which data are available, decelerated further in the third quarter. Inter-country differences were large not only in the rates of growth of earnings (ranging in the second quarter of 1981 from 2.0 per cent in the Netherlands to just under 25 per cent in Italy) but also in the quarterly changes: there was a sharp deceleration in Austria, Ireland and the Netherlands in the first quarter; and in the Federal Republic of Germany, Sweden and, to a lesser extent, in the United Kingdom in the second quarter and in Norway in the third. In contrast, earnings accelerated sharply in Austria in the second quarter and in the Netherlands in the third quarter. Except in Belgium, Denmark, France, and Switzerland, where there was a levelling out over the year, quarterly growth rates tended to fluctuate fairly sharply. However, on the basis of data for the first three quarters, annual growth rates of nominal earnings in 1981 were lower than in 1980 in all countries except Belgium and Italy. In North America a deceleration in the growth of earnings started in the third quarter following the deceleration of output growth at the turn of the year.

The growth of *real earnings* in west European manufacturing industry, which had recovered slightly during the second half of 1980 after a slowdown in the preceding four quarters, deteriorated further in 1981, particularly from the second quarter, despite a levelling off in the rate of growth of consumer prices. This deterioration in real wages is far from surprising at a time when productivity and output growth have been falling. The year-on-year rate of change was zero in the first quarter and −0.5 per cent and −0.9 per cent in the second and third quarters respectively; this decline follows an average annual rate of increase of 1.5 per cent in 1979 and 0.3 per cent in 1980 (table 1.1.23).

Real earnings fell in most countries of western Europe and North America; in Belgium, Finland and France, they were still rising, although the rates of increase were falling quite sharply, while in Italy they accelerated quite sharply through the first three quarters. The slower growth of nominal earnings was the main reason for the fall in real earnings; in Switzerland, however, the main factor was the acceleration in the consumer price index.

In spite of the fall in earnings, growth *unit labour costs* continued to rise quite strongly in 1981, although at a somewhat lower rate than in 1980. In western Europe, where the available data refer only to the total economy, they increased on average by around 10 per cent compared with 10.5 per cent in 1980 and 7 per cent in 1979.

**Unit labour costs[a] for the whole economy**
(*Percentage change over previous year*)

| | *1979* | *1980* | *1981[b]* |
|---|---|---|---|
| Austria | 1.7 | 4.4 | 8 |
| Belgium | 4.6 | 6.2 | 7.5 |
| Denmark | 7.8 | 8.2 | 9 |
| Finland | 6.5 | 11.1 | 12 |
| France | 9.4 | 13.6 | 13.5 |
| Germany, Federal Republic of | 3.1 | 5.9 | 4.5 |
| Ireland | 17.2[c] | 20.2[c] | 15.5[c] |
| Italy | 14.0 | 18.4 | 22 |
| Netherlands | 5.9 | 5.9 | 4.5 |
| Norway | – | 7.9 | 9.5 |
| Sweden | 5.2 | 10.1 | 7 |
| Switzerland | 2.6 | 2.7 | 7 |
| United Kingdom | 14.7 | 22.3 | 11 |
| Canada | 8.4 | 11.9 | 9 |
| United States | 8.9 | 9.5 | 8.5 |

*Source:* National statistics.

[a] Compensation of employees per unit of real GDP or GNP.

[b] Preliminary figures and secretariat estimates rounded to the nearest 0.5 percentage point.

[c] Refers to non-agricultural wages.

There are large inter-country differences in the rate of increase, ranging from 4.5 per cent in the Federal Republic of Germany and the Netherlands to 22 per cent in Italy. Unit labour costs accelerated sharply in Austria and Switzerland and less so in Belgium, Denmark, Italy and Norway; elsewhere the rate of increase tended to be less than in 1980. In those countries where there was a sharp acceleration in unit labour costs, this was mainly due to decelerating or falling productivity growth, rather than an acceleration in nominal wages, except in Denmark, where productivity is estimated to have slightly improved in 1981, mainly because of the sharp decrease in employment. Elsewhere the deceleration in the growth of unit labour costs was mainly due to the slower growth in the compensation of employees resulting from lower employment and lower rates of increase in nominal wage rates; in Ireland and North America the deceleration was also partly due to the stronger output growth.

The sharpest falls in unit costs were in Sweden and the United Kingdom with respective growth rates of 7 and 11 per cent in 1981 compared with 10 and 22 per cent in 1980: these were due to a sharp fall in employment growth in Sweden, a large decline in

### TABLE 1.1.22

### Annual and quarterly changes in average hourly earnings in manufacturing industry

*(Percentage change over corresponding period of previous year)*

| Country | 1979 | 1980 | 1980 Q1 | 1980 Q2 | 1980 Q3 | 1980 Q4 | 1981 Q1 | 1981 Q2 | 1981 Q3 | 1981 Q4 |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria[a] | 5.8 | 7.9 | 7.4 | 7.3 | 6.2 | 10.1 | 5.0 | 8.4 | 6.5 | 4.9 |
| Belgium[b] | 6.5 | 8.8 | 7.3 | 8.5 | 9.5 | 9.3 | 10.1 | 9.7 | 9.0 | 10.6 |
| Denmark[c] | 11.4 | 11.2 | 13.0 | 12.1 | 11.4 | 8.6 | 8.9 | 8.6 | 9.1 | 10.1 |
| Finland | 11.6 | 12.6 | 9.4 | 13.0 | 12.6 | 16.1 | 14.5 | 13.0 |  | .. |
| France[d] | 13.0 | 15.1 | 13.9 | 14.8 | 15.6 | 15.2 | 14.8 | 13.7 | 13.2 | 14.8 |
| Germany, Fed. Rep. of[e] | 5.5 | 6.2 | 4.5 | 6.5 | 7.0 | 7.0 | 7.0 | 3.9 | 5.0 | 5.8 |
| Ireland[f] | 15.4 | 21.1 | 23.4 | 24.1 | 15.8 | 21.5 | 16.2 | 17.7 | 19.0 | .. |
| Italy[g] | 19.0 | 22.5 | 22.4 | 23.2 | 22.5 | 21.9 | 23.1 | 24.9 | 24.1 | 22.7 |
| Netherlands[g] | 4.4 | 4.5 | 4.7 | 5.2 | 4.1 | 4.1 | 2.0 | 2.0 | 3.8 | 3.9 |
| Norway[h] | 2.8 | 9.3 | 2.2 | 4.4 | 16.3 | 14.8 | 13.8 | 12.0 | 7.4 | 7.8 |
| Sweden[c] | 9.5 | 10.3 | 5.3 | 10.8 | 12.1 | 12.8[i] | 15.1 | 9.4 | 8.2 | 6.8[i] |
| Switzerland[j] | 2.7 | 5.2 | 5.3 | 4.8 | 5.1 | 5.6 | 4.9 | 5.2 | 5.1 | 5.0 |
| United Kingdom[k] | 15.6 | 17.8 | 17.2 | 17.8 | 21.4 | 15.0 | 15.4 | 11.5 | 12.6 | 13.4 |
| Canada | 8.8 | 10.1 | 9.7 | 9.4 | 10.0 | 11.2 | 11.3 | 12.6 | 11.8 | 12.4 |
| United States | 8.6 | 8.5 | 7.4 | 8.0 | 9.0 | 10.4 | 10.8 | 11.0 | 9.9 | 7.9 |

*Sources:* National Statistics, and OECD, *Main Economic Indicators*, Paris.

[a] Monthly earnings of wage-earners in total industry.

[b] Industry. Adult male workers.

[c] Including mining and quarrying.

[d] Wage rates. Quarterly data, referring to the beginning of January, April, July and October respectively. Annual figures are obtained by averaging the five observations from January of one year to January of the following year.

[e] Quarterly data, referring to January, April, July and October.

[f] Quarterly data, referring to March, June, September and December.

[g] Wage rates.

[h] Males only.

[i] Excludes possible retroactive supplements.

[j] Data refer to workers who had accidents during the relevant period.

[k] Weekly earnings (all employees), Great Britain.

### TABLE 1.1.23

### Changes in real hourly earnings in manufacturing industry

*(Percentage change over corresponding period of previous year)*

| Country | 1979 | 1980 | 1980 Q1 | 1980 Q2 | 1980 Q3 | 1980 Q4 | 1981 Q1 | 1981 Q2 | 1981 Q3 | 1981 Q4 |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria[a] | 2.0 | 1.4 | 2.0 | 0.8 | −0.7 | 3.3 | −1.9 | 1.5 | −0.1 | −1.9 |
| Belgium[b] | 1.9 | 2.0 | 0.9 | 2.0 | 2.8 | 1.8 | 2.7 | 2.2 | 0.8 | 2.5 |
| Denmark[c] | 1.6 | −1.0 | −0.3 | −1.6 | −0.1 | −1.9 | −1.8 | −3.2 | −2.3 | −1.8 |
| Finland | 3.8 | 0.9 | 0.1 | 1.6 | 0.4 | 2.3 | 1.2 | 0.3 | 1.3 | .. |
| France[d] | 2.0 | 1.3 | 0.5 | 1.0 | 1.8 | 1.4 | 2.0 | 0.8 | 0.4 | 0.6 |
| Germany, Fed. Rep. of[e] | 1.3 | 0.7 | −0.9 | 0.6 | 1.5 | 1.6 | 1.3 | −1.6 | −1.0 | −1.7 |
| Ireland[f] | 1.9 | 2.5 | 6.8 | 3.2 | −2.5 | 2.8 | −4.0 | 0.5 | −0.9 | .. |
| Italy[g] | 3.7 | 1.1 | 1.5 | 1.9 | 0.6 | 0.3 | 2.5 | 3.6 | 4.1 | 3.6 |
| Netherlands[g] | 0.2 | −1.9 | −1.0 | −1.2 | −2.8 | −2.4 | −4.4 | −4.2 | −2.6 | −3.1 |
| Norway[h] | −1.9 | −1.4 | −5.4 | −5.2 | 3.7 | 1.4 | −0.7 | −1.8 | −5.5 | −4.0 |
| Sweden[c] | 2.1 | −3.0 | −6.6 | −2.2 | −1.2 | −1.7[i] | 2.0 | −3.3 | −4.0 | −2.8[i] |
| Switzerland[j] | −0.9 | 1.2 | 1.0 | 0.9 | 1.3 | 1.4 | −0.9 | −0.8 | −2.0 | −1.9 |
| United Kingdom[k] | 1.9 | −0.2 | −1.6 | −3.0 | 4.3 | −0.3 | 2.4 | −0.2 | 1.2 | 1.3 |
| Canada | −0.3 | – | 0.3 | −0.2 | −0.5 | 0.1 | −0.8 | – | −0.8 | 0.1 |
| United States | −2.4 | −4.4 | −6.0 | −5.7 | −3.5 | −2.0 | −0.4 | 1.1 | −0.9 | −1.6 |

*Sources and footnotes:* As for table 1.1.22.

*Notes:* The change in real earnings is the change in money earnings deflated by the corresponding change in the consumer price index.

employment, particularly in manufacturing, in the United Kingdom, and to a slower growth of nominal wage rates.

In western Europe *consumer price inflation* in 1981 was the same as in 1980, the average year-on-year rate of increase remaining at 11.4 per cent. There was

TABLE 1.1.24

**Annual and quarterly changes in consumer prices, 1979–1981**
*(Percentage change over corresponding period of preceding year)*

| | | | | 1980 | | | | 1981 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Country* | *1979* | *1980* | *1981* | *Q1* | *Q2* | *Q3* | *Q4* | *Q1* | *Q2* | *Q3* | *Q4* |
| Austria | 3.7 | 6.4 | 6.8 | 5.3 | 6.5 | 6.9 | 6.6 | 7.0 | 6.8 | 6.6 | 6.9 |
| Belgium | 4.5 | 6.6 | 7.6 | 6.3 | 6.4 | 6.5 | 7.4 | 7.2 | 7.3 | 8.1 | 7.9 |
| Denmark | 9.6 | 12.3 | 11.7 | 13.3 | 13.9 | 11.5 | 10.7 | 10.9 | 12.2 | 11.7 | 12.1 |
| Finland | 7.5 | 11.6 | 12.0 | 9.3 | 11.2 | 12.2 | 13.5 | 13.1 | 12.7 | 11.8 | 10.5 |
| France | 10.8 | 13.6 | 13.1 | 13.3 | 13.7 | 13.6 | 13.6 | 12.6 | 12.8 | 13.6 | 14.1 |
| Germany, Fed. Rep. of | 4.1 | 5.5 | 5.9 | 5.5 | 5.9 | 5.4 | 5.3 | 5.6 | 5.6 | 6.1 | 6.5 |
| Ireland [a] | 13.2 | 18.2 | 20.4 | 15.5 | 20.2 | 18.8 | 18.2 | 21.0 | 17.1 | 20.1 | 23.3 |
| Italy | 14.8 | 21.2 | 19.5 | 20.6 | 20.9 | 21.8 | 21.5 | 20.1 | 20.6 | 19.2 | 18.4 |
| Netherlands | 4.2 | 6.5 | 6.7 | 5.8 | 6.5 | 7.1 | 6.7 | 6.7 | 6.5 | 6.6 | 7.2 |
| Norway | 4.8 | 10.9 | 13.6 | 8.0 | 10.1 | 12.1 | 13.2 | 14.6 | 14.1 | 13.7 | 12.3 |
| Sweden | 7.2 | 13.7 | 12.1 | 13.2 | 13.3 | 13.5 | 14.7 | 12.8 | 13.1 | 12.7 | 9.9 |
| Switzerland | 3.6 | 4.0 | 6.5 | 4.3 | 3.9 | 3.8 | 4.1 | 5.8 | 6.0 | 7.2 | 7.0 |
| United Kingdom | 13.4 | 18.0 | 11.9 | 19.1 | 21.5 | 16.4 | 15.3 | 12.7 | 11.7 | 11.3 | 11.9 |
| *West European average (unweighted)* | *7.8* | *11.4* | *11.4* | *10.7* | *11.8* | *11.5* | *11.6* | *11.5* | *11.3* | *11.4* | *11.4* |
| Canada | 9.1 | 10.1 | 12.5 | 9.4 | 9.6 | 10.5 | 11.1 | 12.2 | 12.6 | 12.7 | 12.3 |
| United States | 11.3 | 13.5 | 10.4 | 14.3 | 14.5 | 12.9 | 12.6 | 11.2 | 9.8 | 10.9 | 9.6 |

*Sources:* National statistics; OECD, *Main Economic Indicators,* Paris; OECD Press Release of 10 February 1982.

[a] February, May, August, and November, and averages thereof.

some deceleration in the first half of 1981 but this did not continue in the rest of the year because of increases in public utility and energy prices; there were also increases in value added taxes and higher rents and mortgage charges in some countries during the third and fourth quarters. However, thanks to the general stability of retail prices for food and oil products, consumer price inflation did not accelerate to any great extent in the last quarters and hence the annual rate levelled out. However, this general levelling out in the average rate of inflation for western Europe as a whole is the net result of the rate accelerating in some countries and decelerating in others (table 1.1.24). The strong acceleration in the consumer price index, which started in 1980, continued in Switzerland and Ireland, and in the latter the rate in the last quarter compares with the previous peak rate of 1974. The deterioration of inflation in Switzerland was due to the weakening of the Swiss franc against the US dollar (depreciation of the Deutschmark against the dollar was also partly responsible for the continuing acceleration of prices in the Federal Republic of Germany) high food prices and unfavourable developments in the housing sector.

In contrast, annual inflation rates fell in Denmark, France, Italy, Sweden and sharply in the United Kingdom, while in the other west European countries their rate of acceleration was less than in 1980. However, the quarterly figures show a more uneven picture. In France the rate fell only in the first quarter and then accelerated again: the average rate of increase in the second half of the year was higher than in the same period of 1980. The acceleration in France in the second quarter was mainly due to the liberalization of price controls on services and thereafter to increases in the prices of energy and transportation. (In Denmark the acceleration in the first half of the year was largely due to the progressive effects of the abolition of price controls.) In Finland the slowdown in the inflation rate was partly due to reduced cost pressures, such as the abolition or reduction of some employers' social security contributions, together with voluntary price restraint.

The strongest deceleration in 1981 was in the United Kingdom where the rate of inflation was the lowest since 1974 (except for 1978), mainly because of the highly deflationary stance of policy; there was a slight acceleration in the last quarter, mainly due to an increase in the cost of mortgages and rising coal prices. There was also a sharp fall in the inflation rate in Sweden mainly because of lower indirect taxes and food prices, and stronger price controls.

In North America the inflation trends were also different. In Canada the acceleration which started in mid-1980 continued until the fourth quarter of 1981, bringing the annual rate to 12.5 per cent which is higher than the peak rates of 1974 and 1975. In the United States the decelerating trend of the second half of 1980 continued throughout 1981 except for an acceleration in the third quarter due to the rapid increase in the cost of medical care and of food. The average rate of inflation in 1981 (10.4 per cent) was a quarter lower than in 1980 and was also less than in 1979.

In western Europe in 1981 inflation rates accelerated in countries where the rate had been well below the European average in 1980 (except Ireland), while there was a sharp deceleration in countries where inflation had been well above

TABLE 1.1.25

**Components of the change in "total" prices in 1981**

<table>
<tr><th></th><th colspan="6"><i>Change in total prices</i>[a] <i>(per cent)</i></th></tr>
<tr><th></th><th></th><th colspan="5">of which <i>due to:</i>[b]</th></tr>
<tr><th></th><th></th><th><i>Compensation of employees</i></th><th><i>Gross operating surplus</i></th><th><i>Indirect taxes less</i></th><th><i>Import prices in US dollars</i></th><th><i>US dollar</i>[c] <i>exchange rate</i></th></tr>
<tr><td>Austria</td><td>6.7</td><td>3.1</td><td colspan="2">— 0.5 —</td><td>−3.0</td><td>6.1</td></tr>
<tr><td>Finland</td><td>11.6</td><td>5.6</td><td>2.8</td><td>1.3</td><td>−0.3</td><td>2.2</td></tr>
<tr><td>France</td><td>13.1</td><td>6.3</td><td colspan="2">— 4.0 —</td><td>−1.3</td><td>4.1</td></tr>
<tr><td>Germany, Fed. Rep. of</td><td>5.4</td><td>2.0</td><td>0.5</td><td>0.3</td><td>−2.4</td><td>5.0</td></tr>
<tr><td>Netherlands</td><td>10.0</td><td>1.5</td><td>1.8</td><td>0.4</td><td>−3.5</td><td>9.8</td></tr>
<tr><td>Sweden</td><td>10.3</td><td>4.5</td><td>3.2</td><td>1.2</td><td>−0.9</td><td>2.3</td></tr>
</table>

*Sources:* Basic data as for appendix table; IMF, *International Financial Statistics*, Washington D.C.

[a] The implicit price deflator of total final expenditure; percentage increase over 1980.

[b] The calculation is based on 1980 weights in total final expenditure. The component contributions refer to the costs of each component per unit of total final expenditure at constant prices.

[c] Based on year-on-year changes for the first three quarters.

average in 1980. Thus, although they remain large, inter-country differences in the rate of inflation narrowed in 1981.[48]

Estimates of the various contributions to the change in "total" prices, as measured by the price deflator of total final expenditure in 1981, are shown in table 1.1.25 (for those few countries where the relevant data are available). Although the general trend of earnings growth in 1981 was fairly weak, changes in the compensation of employees still tended to provide the major component of the overall price change, but not in the Federal Republic of Germany and the Netherlands where imports of goods and services, accounting for 24 per cent and 40 per cent respectively of total final expenditure, accounted for most of the increase. The contribution of higher earnings varies a lot, from 15 per cent in the Netherlands to 48 per cent in Finland and France. In Austria and Finland the earnings contribution is considerably larger than in 1980,[49] and also larger than the weight of earnings in total expenditure. Compared with 1980, the relative contribution of earnings decreased only in the Netherlands where the only component with a larger contribution in 1981 was profits. In contrast, in the Federal Republic of Germany, the deceleration in the implicit price deflator of total final expenditure was largely due to the slow growth in profits.

There has been a significant contribution (albeit less than in 1980) to the rise in "total" prices from higher indirect taxes, which have been increased in many countries as part of wider programmes to reduce public sector deficits. This factor is likely to have been particularly important in a number of countries not included in table 1.1.25, Belgium and Ireland, for example.

One of the reasons for the general slowdown of inflation in 1981 was that the prices of oil and non-oil commodities, which had risen sharply in 1980, weakened in both nominal and real terms due to slow economic activity, de-stocking in response to high interest rates, and, in some cases, to improved supplies.[50] The rate of increase in the export prices of manufactured goods also slowed down, but less than in the case of commodity prices. Thus, inflationary pressures from international goods markets were sharply reduced and in all west European countries, except Italy, import prices in US dollars fell in 1981. However, this favourable effect was offset by the rise in the dollar exchange rate against most European currencies in the first half of 1981. The last two columns of table 1.1.25 show the broad orders of magnitude of these two opposing influences. In Austria and the Federal Republic of Germany, despite the falling dollar price of imports, import prices in national currency contributed nearly a half of the rise in "total" prices, and proportionately more than in 1980. In the Netherlands, in 1981, the contribution was nearly two thirds. In Austria, the Federal Republic of Germany and the Netherlands the contribution of exchange rate changes was almost as large as the change in total prices and much larger than the sum of all domestic components. In the other countries of table 1.1.25, the relative contribution of import prices in 1981 was still significant (between 14 and 21 per cent), but tended to be less than in 1980, notably in Finland (where the share of imports of goods and services in total expenditure fell by almost one fifth) and in Sweden.

In the last year west European governments have been acutely aware of the way in which progress achieved in reducing inflation and the prospects for a recovery in output growth can be jeopardized by a sudden depreciation of their foreign exchange rates. In some cases this appears to have led to a greater readiness, if only implicit, to relax short-term money supply targets in favour of attempts to achieve more stable exchange rates. The relative importance of changes in import prices and exchange rates on domestic inflation rates and output growth are discussed in a more analytical framework in the following section.

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[48] The coefficient of variation (standard deviation as a percentage of the mean) of the quarterly rates of inflation for the 13 west European countries shown in table 1.1.24 has fallen from 52 per cent in the second quarter of 1980 to 44 per cent in the last quarter of 1981.

[49] See *Economic Survey of Europe in 1980*, table 1.2.5.

[50] See section 1.1 (ii) above on foreign trade and balance of payments.

### (v) Cost and demand pressures on prices and output in the 1970s

In the 1970s there were two major accelerations in the rate of consumer price inflation—the one following the oil and commodity price shock of 1973–1975 and the second after the oil price shock of 1979–1980. In both periods, price movements were highly synchronized among the west European countries although the period between the two shocks showed great variation in country experience. The pattern of manufacturing output changes during the period is also similar in many respects, with a very sharp and highly synchronized recession and recovery in 1973-1975 and a strong though less synchronized downturn in 1979–1980. The period between the two shocks also shows a large variance in the inter-country pattern of output change.

The purpose of this section is to examine these price and output movements in the context of a broad analytical framework based on recently published work.[51] The framework is eclectic in that it incorporates elements of both the monetarist and neo-Keynesian accounts of the causes of inflation.

The conceptual frame of reference is a small, open economy where planned changes in price and output are related to a number of cost and demand factors. To simplify the discussion, the point of departure can be taken as an economy where all wages and prices are initially increasing at the same rate. If there is a sudden surge in demand, cost per unit of output would be increased as the economy presses closer to the limits of capacity. In these circumstances, it would be expected that a rapid increase in demand would result in a relatively greater price increase and a relatively smaller output increase than would be the case if the economy were growing at a steady rate. The closer is demand to the limits of capacity, the more likely it is that most of the impact of a change in demand will result in higher prices rather than increased output.

The evolution of demand plays an important role in price and output determination. Demand shocks may occur for a variety of reasons: for example, there might be a sudden increase in public sector expenditure, or export volumes may boom. In both cases, there is a stimulus to new orders which should induce a faster rate of growth of output.

However, the cost structure need not stay the same. If the prices of imported materials used in domestic production rise faster than selling prices or if wages are increasing faster than prices, there will be an upward pressure on costs. Thus, if wages increase faster than prices generally, costs will be increasing faster than selling prices and this will induce a subsequent rise in prices (as enterprises attempt to maintain profit margins) and a fall in output growth. (The extent to which a rise in demand is divided between changes in prices and changes in real output will largely depend on the amount of spare capacity prevailing.) The labour market is linked to costs and prices by the assumption that wage demands are related to unemployment levels and to wage earners' expectations regarding consumer price changes.[52] Wages tend to rise relatively faster the lower is the level of unemployment and the higher are expectations of price changes.

In this account of price and output determination, three general demand factors are separately identified: (*a*) a fiscal measure, the percentage change in the ratio of the general government deficit to GDP; (*b*) a monetary variable, represented by the change in the "real" stock of money (i.e. the difference between the change in money stock and the change in prices); and (*c*) the change in export volumes. The fiscal and monetary variables are considered to be determined by domestic policy whereas export volumes are assumed to be internationally determined.

Price behaviour is examined by relating annual changes in the consumer price index to changes in import prices, the exchange rate and the nominal money supply, and to the level of unemployment.[53] Assuming that the responses of manufacturing output and consumer prices to these factors are reasonably uniform among a group of industrial countries, estimates of over-all price and output responses to economic forces may be estimated.

*Changes in consumer prices and output*

The approach described above was used to analyse changes in consumer prices and in manufacturing output for a group of 13 west European countries in the 1970s.[54] One modification to this approach was the introduction of a measure of the relative intensity of economic activity, namely, the ratio of manufacturing output in a given year to its trend value. Otherwise the price determining forces are past changes in consumer prices, changes in import prices

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[51] Michael Bruno, "Import Prices and Stagflation in the Industrial Countries: A Cross-Section Analysis", *The Economic Journal*, September 1980, pp. 479–492; and *Import Prices and Stagflation in the Industrial Countries: Preliminary Analysis*, Discussion Paper No. 788, The Maurice Falk Institute for Economic Research in Israel, June 1979. The analysis given here draws on (and simplifies) the discussion in the second reference, which should be consulted for a detailed discussion of the assumptions employed.

[52] That is, the augmented Phillips curve is assumed.

[53] More precisely, year-to-year movements in consumer prices are related to lagged changes in consumer prices, concurrent movements in import prices and the money stock, and the lagged level of unemployment. The lagged term for consumer prices may be interpreted as reflecting the pressure on prices through costs including wages. The money stock term could be alternatively interpreted as an exogenous policy variable (as stated above) or, from the point of view of the "rational expectations approach", as indicating expected future price changes. The effect on inflation of import prices is subdivided into the change in international prices in dollar terms and movements in a given country's exchange rate. Thus, a distinction can be drawn between the inflationary experience of depreciating-currency versus appreciating-currency countries. The unemployment level is taken as an indicator of demand pressures.

[54] Austria, Belgium, Denmark, Finland, France, Federal Republic of Germany, Ireland, Italy, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom, that is, the standard group of the more industrialized west European countries treated throughout this chapter. A pooled cross-section time series analysis is applied and reported in the technical note at the end of this section.

(measured in dollars), changes in the exchange rate, and changes in the nominal stock of money.

Past changes in consumer prices have an extremely important influence on current price changes: each 1 per cent change in prices in the previous year leads to a rise of consumer prices in the current year of about 0.6 per cent. This relation may be interpreted as the result of the wage-cost-price cycle, where wage demands reflect recently experienced inflation. Increases in wages, in turn, drive up unit costs which then serve to increase prices still further. Thus, the effect of price changes in any one period tends to persist over time through the inter-relationships between the labour and product markets. Thus, for example, if for any reason there is a price shock which drives up the current inflation rate by 10 per cent, in the subsequent year, assuming no other changes, consumer prices would be increased by roughly another 6 per cent above the inflation rate that would otherwise have prevailed. Since the effect in each subsequent year reflects inflation in the prior year, through the wage-cost-price link, the effect of a shock is felt with diminishing intensity for a number of years.

Changes in the price of imported goods serve to raise consumer prices directly to the extent that imports enter the "basket" of final goods and services purchased by consumers; indirectly they affect final prices via their impact on the cost structure of the manufacturing sector. Increases in the price of imported goods may be viewed as being comprised of a change in their dollar price and of the exchange rate. The impact of a change in import prices may differ considerably from country to country. For the country whose currency is depreciating at the same time as international prices are rising, there is the double impact of increased dollar prices and the need to spend relatively greater sums of local currency per dollar of imports. By contrast, the appreciating country is relatively insulated from the rise in international prices. For the 13 countries studied here, each 1 per cent increase (decrease) in import prices raised (lowered) consumer prices by about 0.15 per cent, with exchange rate changes having a somewhat more powerful effect than changes in the dollar price of imports.[55]

The price effects of surges in demand pressure appear to be quite important. If demand rises faster than its trend rate, it seems reasonable to suppose that capacity is under greater pressure than when output growth is more or less in line with its past trend. For the sample of countries examined here it was found that when output increased relative to trend, price increases tended to be even more rapid. This result has to be viewed with prudence as the role of demand pressure, as measured here, should be different when output is below trend than when it is above. It may be supposed that production cuts rather than price moderation would be relatively more important for below average activity and vice versa for above average activity. Also, the potential differences among countries in their response to the same level of activity are not allowed for. In short, the measure used here is only a rough proxy for demand pressure and it should be viewed as providing no more than a broad order of magnitude of its past importance.

Finally, changes in the money stock appear to play some role. Taking into account all the other demand and cost variables included, higher money growth rates *per se* are associated with somewhat higher inflation rates, though this factor is the least significant of those included.[56]

The economic factors identified above as determinants of price movements shed substantial light on price developments in the 1970s, but they do not fully explain developments after the second oil price shock. In this latter period price rises were about 3 per cent higher than would have been expected on the basis of the historical analysis described above. One possible explanation of this may be a faster adaptation to the second oil price shock than to the first.[57] Also when the approach used here is applied to individual countries, as a test of the robustness of the analysis, there are a number of cases where its ability to attribute price changes to the specified factors is rather limited.[58] Thus the results presented here should be viewed as providing an approximate account of the relative importance of various factors in the inflation process and should be taken as an explanation of the experience of the European countries as a whole than of the historical experience of specific countries.

Changes in manufacturing output are related to cost and demand factors. The cost factors selected here are changes in import prices and in hourly wage rates in manufacturing industry. These variables were converted to "real" terms, i.e. the rate of inflation is subtracted from changes in each of the variables. When import prices or wages rise faster than the current rate of inflation, the unit variable costs of firms are driven up with an expected negative impact on output. The demand factors are changes in the money stock, changes in the share of the government deficit in gross domestic product and changes in export volumes.[59] Increases in the money stock above the current inflation rate augment purchasing power and result in a subsequent rise in the demand for goods and services. A rise in government spending or a cut in taxes will increase the government deficit; when the share of the deficit in GDP rises, the government's demand for goods and services is rising faster than over-all demand which should provide a (policy determined) impulse to future demand growth through successive rounds of increased incomes and of consumption. Export volume growth may be expected to directly affect manufacturing output, assuming a stable share of manufactures in total exports.

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[55] This difference between exchange rates and dollar-based import prices was also recorded in the studies by Bruno, cited above.

[56] The current rate of change of prices is increased by about 0.07 per cent for each increment of 1 per cent in money growth rates.

[57] The "adaptation" may be either in the private sphere or in a public policy response that encouraged a faster "pass-through" of prices after the second shock as compared with the first. A dummy variable was used to separate the periods before and after the first oil shock, but although the coefficient on the dummy was positive it was not significant. Alternatively, it may be argued that the period studied is not sufficiently long for the full effects of the second shock to have worked themselves out. Perhaps the same variables tested with two or three more years of data will provide a fuller explanation of the price movement.

[58] At least three fourths of price movements are explained for all countries except Norway, Sweden and the United Kingdom where about one half to three quarters of the price variations are explained. However, for the Netherlands the approach provided little explanation of price movements.

[59] The money stock term, calculated in real terms, and the change in the share of the government deficit in GDP are introduced with a one-year lag, whereas export volumes are introduced concurrently with output changes.

The cost and demand factors were significant except for changes in the share of the government deficit in GDP which did not provide a significant contribution to the explanation of output change. The impact of changes in real import prices was by far the most significant of the cost measures examined, although the analysis showed that shifts in wage costs also played a certain role.[60] The most important demand variable was the change in export volumes, with real money stock changes also providing a significant contribution to output changes.[61]

The same reservations to the explanation of price changes apply also to the analysis of output changes, i.e. it provides a broad explanation of changes in output growth for western Europe but is less adequate in explaining historical developments in all of the individual countries.[62]

*The price shocks of 1973–1975 and 1979–1981*

The above analysis may be used to broadly assess the relative importance of the various factors in the explanation of price and output changes in the aftermath of the two oil price shocks of 1973/74 and 1979/80 in the 13 west European countries. The importance of any one factor depends on the impact of each percentage change in the factor on prices or output and also on the actual change in the determining factor during the period being examined. Between 1973 and 1975 the average annual rise in consumer prices was about 13 per cent, with import prices in dollars rising 21 per cent, a dollar depreciation of around 1 per cent and money stock growth of 12 per cent. Economic activity, as measured by the ratio of actual to trend output, was above average at the start of the period. With the exception of the exchange rate, changes in all the determining factors tended to raise prices. Previous price increases accounted for more than half of the rise in consumer prices in this period, changes in dollar-based import prices and the high starting level of activity each accounted for a further fifth of the increase. Changes in the money stock made a significant but small (less than 10 per cent) contribution to the rise in prices.

In the 1979–1981 period, the average annual increase in prices was about 11 per cent with dollar-based import prices rising by 5 per cent, the dollar exchange rate by 11 per cent and money growth by 7 per cent; relative activity was slightly below average at the beginning of the period. Again, the role of past price changes is dominant, accounting for 60 per cent of the rise in consumer prices; exchange rate changes accounted for over one fifth of the increase. A significant role was also played by increasing dollar import prices and by money which together accounted for about 15 per cent. The major difference between the two periods is that the exchange rate component of import price changes was a major force in the second period, whereas the rise in dollar import prices was of greater importance in 1973–1975.

Looking at 1980 and 1981 separately, the contrasting development of the two components of import prices becomes much sharper. In 1980 dollar-based import prices soared by 18 per cent while the exchange rate fell against the dollar by about 1 per cent. In 1981 dollar-based import prices fell by 8 per cent while the dollar exchange rate rose by 24 per cent.[63] Thus, while changes in the local currency price of imports played the major role in affecting the rise in consumer prices in 1980–1981, the source of the rise was different in each year.

The average annual fall in manufacturing output between 1973 and 1975 was about 2 per cent. Real import prices rose by 16 per cent, export volumes by about 1 per cent and real product wages by 1 per cent. Real money balances edged up by about one half per cent in the period.[64] Virtually the entire fall in output can be attributed to the effect of the sharp rise in real import prices, although the rise in real product wages also had a small but negative effect on output change, while the changes in export volume and real money balances had small positive effects.[65] The sources of change are more distinct if 1974 and 1975 are treated separately. In 1974, output actually rose slightly and then fell by over 6 per cent in 1975. This sudden decline was induced by the previous increase of over 26 per cent in real import prices in 1974 combined with a 2.6 per cent fall in (1974) real money balances. A fall in 1975 of 6 per cent in export volumes also had an important negative influence on output as did the rise in real product wages, although to a lesser extent. Looking at 1975 in terms of the relative importance of each factor (which altogether accounted for 90 per cent of the fall in output), the rise in real import prices accounted for about five eighths of the decline, with a bit more than one

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[60] Two measures were employed alternatively, real wages and real product wages. Real wage changes are measured as the difference between growth rates of wages and of consumer prices. Subtracting the growth rate of manufacturing productivity from real wages gives the "real product wage". Changes in the real product wage appeared to be more significant than real wage changes: each 1 per cent change in real product wages was associated with a 0.06 per cent fall in output.

[61] The elasticity of changes in manufacturing output with respect to real import prices and the real money stock term was about 0.14. Rises in export volumes of 1 per cent were associated with a 0.3 per cent rise in manufacturing output.

[62] Half or more of the variation in output could be explained for all countries except Denmark, Norway, France and the United Kingdom, where between 40 and 50 per cent of the variation was explained. Little significant explanation was offered in the case of Ireland.

[63] Weighted average change for the 13 country group, based on the first three quarters of 1981.

[64] The changes in real import prices, money and real product wages are measured with a one year lag. See the technical note for the measures employed.

[65] Over three fourths of the 1973–1975 change are explained by all the factors together.

### TABLE 1.1.26

### Summary of regression results, 1969 to 1980[a]

#### I. CHANGES IN CONSUMER PRICES

| | $CPI_{-1}$ | $M$ | $EX$ | $PM^*$ | $D79\text{–}80$ | $Q/TRENDQ_{-1}$ | $R^2$ |
|---|---|---|---|---|---|---|---|
| Equation 1*P* . . . | 0.594<br>(12.82) | 0.074<br>(2.34) | 0.187<br>(6.59) | 0.129<br>(7.13) | 3.029<br>(4.80) | 21.095<br>(5.45) | 0.792[b] |
| Equation 2*P* . . . | 0.628<br>(14.64) | 0.068<br>(2.15) | 0.144[c]<br>(8.86) | | 2.916<br>(4.61) | 18.068<br>(5.14) | 0.789 |

#### II. CHANGES IN MANUFACTURING OUTPUT

| | $PM\text{–}CPI_{-1}$ | $M\text{–}CPI_{-1}$ | $EVOLIND$ | $D74\text{–}75$ | $RPWAGE_{-1}$ | $R^b$ |
|---|---|---|---|---|---|---|
| Equation 1*Q* . . . | −0.142<br>(−3.75) | 0.144<br>(2.61) | 0.291<br>(5.27) | −2.280<br>(−3.58) | −0.061<br>(−1.03) | 0.467[2] |
| Equation 2*Q* . . . | −0.138<br>(−3.66) | 0.141<br>(2.56) | 0.292<br>(5.28) | −2.332<br>(3.68) | | 0.467 |

[a] *t*-statistics are given in parentheses. Variables designated −1 are lagged one year.

[b] For the two principal equations, the Durbin-Watson test statistics are 2.21 for 1*P* and 1.76 for 1*Q*.

[c] Here PM is used.

fourth due to the fall in export volumes. The fall in real money balances was significant but accounted for less than 10 per cent of the fall in output.

In contrast, the history of manufacturing output changes for 1979–1981 is much more varied as to the pattern and sources of change. In 1980, manufacturing output fell marginally with widely differing rates among the 13 countries examined. It was not until 1981 that the decline became general with a weighted average fall of 2.7 per cent. The stage was set for a fall in 1981 manufacturing output when in 1980 real import prices rose over 4 per cent and real money balances fell by more than 4 per cent. There was some offset to these forces by a 3 per cent gain in export volume. Real product wages were virtually unchanged. In very rough orders of magnitude,[66] perhaps half of the drop in output can be attributed to the rise in import prices and the fall in real money taken together, with other factors more than offsetting the small rise in exports.[67]

## TECHNICAL NOTE

Table 1.1.26 shows a number of alternative regression equations tested for year-to-year changes in consumer prices and in manufacturing output for 13 west European countries for 1969–1980 treated as a pooled time-series cross-section sample. The price equation discussed in the text is 1*P*. For purposes of comparison an alternative price equation 2*P*, in which the exchange rate and dollar import price terms are combined, is also shown.

On *a priori* grounds, a wage term was kept in the equation explaining output changes, although the level of significance was less than the 5 per cent *t*-test level. Equation 1*Q*, which contains the real product wage, gives relatively more significant results than an alternative equation (not shown here) in which real wages were used. In equation 2*Q* the wage term is omitted and it can be seen that the remaining net regression coefficients are about the same as before.

*Variables and definitions used:*

| | |
|---|---|
| CPI | Consumer Price Index (all items). |
| EX | Exchange rate (local currency units per US dollar). |
| PM | Import Price Index (or unit value of imports for countries for which import price indices are not reported) in national currency. |
| PM* | Dollar price of imports (= PM − EX). |
| EVOLIND | Export Volume Index. |
| RPWAGE | Real Product Wage. |
| W | Hourly earnings in manufacturing. |
| M | M1, the narrowly defined money stock, measured as the average of year-end data reported in a given year and the prior year. |

(The eight variables above are all in terms of year-to-year percentage changes.)

| | |
|---|---|
| D79–80 | A dummy variable taking the value 1 for 1979/80 and 0 otherwise. |
| D74–75 | A dummy variable taking the value 1 for 1974/75 and 0 otherwise. |
| Q/TRENDQ | Manufacturing output relative to its trend value. A log-linear equation was fitted to the time series for output to obtain the trend values for output. |

The data were taken mainly from IMF, *International Financial Statistics*, Washington DC, and

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[66] See the technical note. The over-all explanatory power of the measures developed is too low to be precise about the exact role played by each of the forces considered.

[67] Taken alone, export growth would have raised output by a little more than one half per cent.

OECD, *Main Economic Indicators*, Paris, and refer to 13 countries (Austria, Belgium, Denmark, Federal Republic of Germany, France, Finland, Ireland, Italy, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom) for the period 1969 to 1980 except in the case of the output equation where data for Sweden was for 1969 to 1979.

### (vi) Changing trends in productivity growth

The slowdown in the growth of productivity, which has occurred in virtually all the industrial market economies of western Europe and North America since the early 1970s, has become a major concern of economists and policy makers. The issue is highly complex and explanations of the causes of the slowdown as well as proposals for reversing it remain controversial. The various factors which at one time or another have been suggested as the principal causes encompass virtually all aspects of the structure of modern societies. They range from the slow growth of capital per worker, low output growth, declining research and development activities, inflation, high energy prices, changes in the age-sex composition of the labour force, diversion of investment expenditure to pollution abatement (as one example of increasing government regulations) and energy conservation, depletion of the reserves of technologically path-breaking inventions, to simple qualitative statements such as "People don't want to work any more".[68] It is thus not surprising that the diagnosis of and suggested remedies for the decline in productivity growth occupy an important position in the broader macro-economic controversies over the causes and cures of "stagflation".

The focus of the present note is on the change in productivity growth in manufacturing industry in western Europe and the United States before and after 1973. The year 1973 suggests itself as a watershed in post-war economic development, as it was the year of the last major cyclical boom and of the massive increase in energy prices. The concentration on manufacturing industry is partly due to data availability; but it can also be justified because there are several reasons why this sector still plays the role of an "engine of growth" in spite of its falling share of GDP in most modern market economies.[69] A cross-country regression of the rate of output growth of the total economy on the growth rate of the manufacturing sector reveals a surprising stability of the relationship by which growth in the latter spills over into the economy as a whole. Taking average annual growth rates of output of the total economy ($Q_{TOT}$) and of total manufacturing industry ($Q_{MFG}$) for ten countries,[70] the relationship of the former to the latter is as follows:

| *Period* | | $\bar{R}^2$ | *SEE* | *DW* |
|---|---|---|---|---|
| 1960–1968 | $Q_{TOT} = 1.15 + 0.56\, Q_{MFG}$<br>(1.19) (3.33) | 0.58 | 0.673 | 2.56 |
| 1968–1973 | $Q_{TOT} = 1.28 + 0.57\, Q_{MFG}$<br>(2.74) (7.95) | 0.89 | 0.444 | 2.18 |
| 1973–1979 | $Q_{TOT} = 1.41 + 0.53\, Q_{MFG}$<br>(12.48) (9.98) | 0.93 | 0.255 | 2.84 |

It can be seen that for all three periods the regression coefficient on manufacturing output growth is about 0.55, while the intercept is about 1.3. This implies that, on average, output growth rates of the total economy higher than about 3 per cent can be achieved only if output in the manufacturing sector is increasing even faster.[71]

The rest of the note is divided into three sections; the first presents the statistical facts of changing output and productivity growth before and after 1973 and tries to establish whether the fall in the growth of productivity after 1973 is statistically significant. The analysis in this section refers to the total economy and the non-manufacturing sector as well as manufacturing industry. The second section will discuss some possible causes of the lower productivity growth after 1973, with the main focus on the relationship between changing productivity and output growth in total manufacturing industry. The final section examines the productivity changes in 18 manufacturing branches in ten countries over the period 1968–1978. A major point of interest here is whether the findings of the time series analysis of section (b) can be substantiated by a cross-section analysis.

#### (a) *The decline in productivity growth after 1973*

*The statistical facts*

Table 1.1.27 sets the average annual growth rates of output and productivity (defined as output per person employed) in total manufacturing industry for 1960–1973 and 1973–1979 against the growth rates for the non-manufacturing sector and for the economy as a whole.

Two main features emerge from the data. First, the slowdown in productivity growth after 1973 is a pervasive phenomenon both across sectors and countries. Second, in all countries lower productivity growth was accompanied by lower rates of output growth. (This point is developed in section (b)). It can be seen that the decline in productivity growth in the manufacturing and non-manufacturing sectors is

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[68] The relative importance of some of these factors in the United States has been examined in E. F. Denison, *Accounting for Slower Economic Growth. The United States in the 1970s*, The Brookings Institution, Washington, D.C., 1979.

[69] See, e.g. J. Cornwall, *Modern capitalism, its growth and transformation*, New York: 1977, pp. 122–136.

[70] Ten countries: Austria, Belgium, Finland, France, the Federal Republic of Germany, Italy, the Netherlands, Sweden, United Kingdom and USA. The data for Austria and Sweden for the first period refer to 1963–1968, and for Sweden to 1973–1977 in the third period. Norway, the remaining country in the standard group of countries analysed below, was excluded because it deviated so much from the average in the third period. The figures in brackets below the regression coefficients are *t*-values. The coefficients on manufacturing output growth are significant at the 5 per cent level for the first period and at 1 per cent in the following two periods.

[71] These results are similar to those obtained by Cripps and Tarling for a somewhat different sample of 12 countries (eight of the above ten countries, excluding Finland and Sweden, plus Norway, Japan, Denmark and Canada) for the period 1950–1969. They estimated the following relationship:

$$Q_{TOT} = 1.295 + 0.603\ Q_{MFG}\ (\bar{R}^2 = 0.899).$$

See, R. F. Cripps and R. J. Tarling, *Growth in Advanced Capitalist Economies*, Cambridge University Press, 1973, p. 22.

### TABLE 1.1.27

### Average annual growth rates of output (*Q*) and productivity (*P*) 1960–1973 and 1973–1979

| Country | Total economy | | Total manufacturing industry | | Non-manufacturing sector | | Change in growth rates | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1960–1973 | 1973–1979 | 1960–1973 | 1973–1979 | 1960–1973 | 1973–1979 | Total economy | Total manufacturing | Non-manufacturing sector |
| **Austria** | | | | | | | | | |
| Q | 5.0 | 3.1 | 6.3[a] | 2.8 | 4.7[a] | 3.3 | −1.9 | −3.5 | −1.2 |
| P | 5.1 | 2.7 | 5.7[a] | 3.5 | 5.1[a] | 2.4 | −2.4 | −2.2 | −2.5 |
| **Belgium** | | | | | | | | | |
| Q | 5.0 | 2.4 | 6.7 | 1.7 | 4.4 | 2.6 | −2.6 | −5.0 | −1.8 |
| P | 4.2 | 2.3 | 6.2 | 5.2 | 3.3 | 1.1 | −1.9 | −1.0 | −2.2 |
| **Finland** | | | | | | | | | |
| Q | 4.7 | 2.4 | 6.7 | 2.6 | 4.0 | 2.4 | −2.3 | −4.1 | −1.6 |
| P | 4.2 | 3.1 | 4.4 | 3.1 | 4.1 | 3.1 | −1.1 | −1.3 | −1.0 |
| **France** | | | | | | | | | |
| Q | 5.6 | 3.1 | 7.5 | 3.0 | 5.0 | 3.2 | −2.5 | −4.5 | −1.8 |
| P | 4.9 | 2.9 | 6.6 | 4.2 | 4.3 | 2.4 | −2.0 | −2.4 | −1.9 |
| **Germany, Fed. Rep. of** | | | | | | | | | |
| Q | 4.5 | 2.4 | 5.2 | 1.9 | 4.0 | 2.7 | −2.1 | −3.3 | −1.3 |
| P | 4.3 | 3.2 | 5.0 | 3.7 | 3.9 | 2.9 | −1.1 | −1.3 | −1.0 |
| **Italy**[b] | | | | | | | | | |
| Q | 5.3 | 2.6 | 7.3 | 2.8 | 4.4 | 2.5 | −2.7 | −4.5 | −1.9 |
| P | 5.7 | 1.8 | 6.4 | 2.5 | 5.3 | 1.5 | −3.9 | −3.9 | −3.8 |
| **Netherlands** | | | | | | | | | |
| Q | 5.0 | 2.5 | 5.8 | 1.4 | 4.8 | 2.8 | −2.5 | −4.4 | −2.0 |
| P | 4.1 | 2.2 | 5.8 | 4.0 | 3.6 | 1.7 | −1.9 | −1.8 | −1.9 |
| **Norway**[c] | | | | | | | | | |
| Q | 4.2(4.2) | 4.8(3.7) | 5.1[d] | 0.1 | 4.0[d] | 5.9 | 0.6(−0.5) | −5.0 | −1.9 |
| P | 3.4(3.3) | 3.6(2.5) | 4.0 | 0.5 | 3.3 | 4.2 | 0.2(−0.8) | −3.5 | 0.9 |
| **Sweden** | | | | | | | | | |
| Q | 3.8[a] | 0.8[e] | 5.2[a] | −1.0 | 3.2[e] | 1.7[c] | −3.0 | −6.2 | −1.5 |
| P | 3.1 | −0.3 | 5.7 | –[f] | 2.1 | 0.1 | −3.4 | −5.7 | −2.0 |
| **United Kingdom**[c] | | | | | | | | | |
| Q | 2.9(2.9) | 1.0(0.5) | 3.0 | −0.7 | 2.8 | 1.7 | −1.9(−2.4) | −3.7 | −1.1 |
| P | 2.6(2.6) | 1.0(0.4) | 3.6 | −0.8 | 2.1 | 1.0 | −1.6(−2.2) | −2.8 | −1.1 |
| **USA** | | | | | | | | | |
| Q | 4.0 | 2.5 | 4.7 | 2.0 | 3.8 | 2.7 | −1.5 | −2.7 | −1.1 |
| P | 1.7 | 0.3 | 3.3 | 1.2 | 1.2 | – | −1.4 | −2.1 | −1.2 |

*Source:* National and international statistics and secretariat estimates.

*Notes:* Productivity is defined as output per person employed except for the Netherlands and Norway where it is calculated as output per man-year.

[a] 1963–1973.

[b] Data for total manufacturing industry include mining and quarrying, electricity and gas.

[c] Figures in brackets are growth rates excluding the extraction of crude oil and natural gas.

[d] 1962–1973.

[e] 1973–1977.

[f] 1973–1978.

of roughly the same order of magnitude in six of the 11 countries (Austria, Finland, France, the Federal Republic of Germany, Italy and the Netherlands). It is smaller in the non-manufacturing sector in Norway, Sweden, the United Kingdom and the USA. Belgium is the only country where the decline in productivity growth in the non-manufacturing sectors exceeds that for manufacturing industry.

The figures for total economy and the non-manufacturing sector for Norway and the United Kingdom—though for the latter country to a lesser extent—are considerably influenced by the inclusion of the oil sector. Indeed, with this sector included, Norway is the only country not to have experienced a fall in productivity growth for the total economy after 1973. This is in striking contrast to manufacturing industry, which suffered a major fall.

The decline in productivity growth has been sizeable in a number of countries. The unweighted average rate of productivity growth in manufacturing industry for the 11 countries fell from 5.2 per cent in 1960–1973 to 2.6 per cent in 1973–1979. The corresponding figures for the non-manufacturing sector are 3.5 per cent and 1.8 per cent. On an individual country basis the fall in productivity growth in manufacturing industry has been particularly large in Sweden (6 percentage points), Italy, Norway and the United Kingdom (3–4 points); for the non-manufacturing sector Italy is the only country where the fall in productivity growth exceeded 3 percentage points.

A basic difference between the manufacturing and the non-manufacturing sectors implied by the data in table 1.1.27 relates to changes in employment. Whereas the level of employment in manufacturing industry fell after 1973 in all 11 countries, only three countries show a relatively small decline in employment in the non-manufacturing sector

TABLE 1.1.28

**Decomposition of the productivity change in the total economy**[a]
*(Average of annual rates of change)*

| Country | 1960–1973[b] | | | | 1973–1979[c] | | | | Differences | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Total change* | *Intra-sectoral effect* | *Shift effect* | *Inter-action effect* | *Total change* | *Intra-sectoral effect* | *Shift effect* | *Inter-action effect* | *Total change* | *Intra-sectoral effect* | *Shift effect* | *Inter-action effect* |
| Austria | 5.30 | 5.24 | 0.03 | 0.03 | 2.68 | 2.79 | −0.07 | −0.04 | −2.62 | −2.45 | −0.10 | −0.07 |
| Belgium | 4.16 | 4.14 | 0.05 | −0.02 | 2.35 | 2.45 | 0.12 | −0.23 | −1.81 | −1.69 | 0.07 | −0.21 |
| Finland | 4.20 | 4.10 | 0.04 | 0.05 | 3.09 | 3.08 | 0.01 | – | −1.11 | −1.02 | −0.03 | −0.05 |
| France | 4.88 | 4.88 | −0.01 | 0.01 | 2.86 | 2.91 | −0.01 | −0.04 | −2.02 | −1.97 | −0.02 | −0.05 |
| Germany, Fed. Rep. of | 4.35 | 4.35 | – | – | 3.16 | 3.24 | −0.05 | −0.03 | −1.19 | −1.11 | −0.05 | −0.03 |
| Italy | 5.71 | 5.56 | 0.04 | 0.11 | 1.79 | 1.84 | −0.04 | −0.01 | −3.92 | −3.72 | −0.08 | −0.1 |
| Netherlands | 4.12 | 4.11 | 0.05 | −0.04 | 2.19 | 2.26 | 0.01 | −0.09 | −1.93 | −1.85 | −0.04 | −0.05 |
| Norway | 3.36 | 3.37 | −0.01 | – | 3.56 | 3.43 | 0.05 | 0.09 | 0.20 | 0.06 | 0.06 | −0.09 |
| Sweden | 3.12 | 3.23 | 0.01 | −0.13 | −0.34 | −0.25 | −0.11 | 0.02 | −3.46 | −3.48 | −0.12 | 0.09 |
| United Kingdom | 2.60 | 2.58 | 0.05 | −0.03 | 0.97 | 0.93 | 0.03 | 0.01 | −1.63 | −1.65 | −0.02 | 0.04 |
| USA | 1.69 | 1.71 | 0.03 | −0.06 | 0.25 | 0.31 | −0.03 | −0.03 | −1.44 | −1.40 | −0.06 | 0.03 |

[a] The total economy was divided into two sectors, namely manufacturing and non-manufacturing.

[b] Austria: 1963–1973; Norway: 1962–1973; Sweden: 1963–1973.

[c] Sweden: 1973–1977.

(Finland, the Federal Republic of Germany and the Netherlands). In the other eight countries employment in this sector continued or, in the case of Italy and Austria, started to rise after 1973, partly reflecting the role played by the public sector in cushioning the rise in unemployment. Given the different levels of productivity in these two major sectors of the economy, it is interesting to measure the extent to which the slowdown in productivity growth for the total economy was due to this shift in the distribution of employment.

Using a simple normalization technique, the growth of productivity in the economy as a whole can be separated into three components:

The productivity change that would have occurred in a given period if the structure of employment had remained the same as in the initial year (i.e. the change due only to intra-sectoral changes in productivity);

The productivity change attributable to changes in the distribution of employment between sectors with different productivity levels (i.e. the shift effect);

The interaction or joint effect of the previous two components (this arises because in an additive decomposition the total change cannot be allocated exactly among its components).[72]

The distinctive feature of table 1.1.28 is the dominance of the intra-sectoral productivity change in all countries in both periods, 1960–1973 and 1973–1979. In no country does the shift effect contribute more than 0.1 percentage point to the productivity slowdown in the total economy after 1973 (see the eleventh column of table 1.1.28). And even if the interaction effect is added to the shift effect the picture does not change very much. In Norway and Belgium the shift effect even pulls in the opposite direction. The basic conclusion to be drawn from this exercise is that the shift of employment did not play a significant role in the productivity slowdown, which instead reflects a decline in the growth of output per person employed in both sub-sectors of the economy.[73]

### *The significance of the change in productivity trends after 1973*

It may be asked whether the decline in productivity growth after 1973 is sufficiently large to constitute a significant break with the pre-1973 trend.

Chart 1.1.5 illustrates the issue. It shows for each country both the actual and trend paths followed by productivity in the total economy and in manufacturing industry and compares, for the period 1974–1979, predicted values based on the previous trend with the actual productivity levels. It can be seen that in all countries actual productivity levels in the latter period are below the values predicted on the basis of

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[72] The normalization formula is as follows:

$$\frac{P_t - P_o}{P_o} = \frac{\sum_{i=1}^{2} (P_{it}-P_{io})\, e_{i1}}{P_o} + \frac{\sum_{i=1}^{2} (e_{it}-e_{io})\, P_{io}}{P_o} + \frac{\sum_{i=1}^{2} (P_{it}-P_{io})(e_{it}-e_{io})}{P_o}$$

where $P_{it}$ denotes the productivity level in sector $i$ ($i = 1,2$) and $e_{it}$ the sectoral shares in total employment in period $t$.

The first component on the right-hand side stands for the "pure" or intra-sectoral productivity effect and the second for the shift effect. The third component shows the joint or interaction effect of the first two components.

[73] This does not, of course, exclude the possibility that shifts in the structure of employment have been important within the two aggregates considered above. The quantitative importance of the shift effect within the manufacturing sector is considered below, pp 58–59.

CHART 1.1.5

### The growth of productivity in total economy and in manufacturing, 1960–1979, and trend values for 1960–1973

(a) TOTAL ECONOMY

(*Semi-log scale 1970 = 100*)

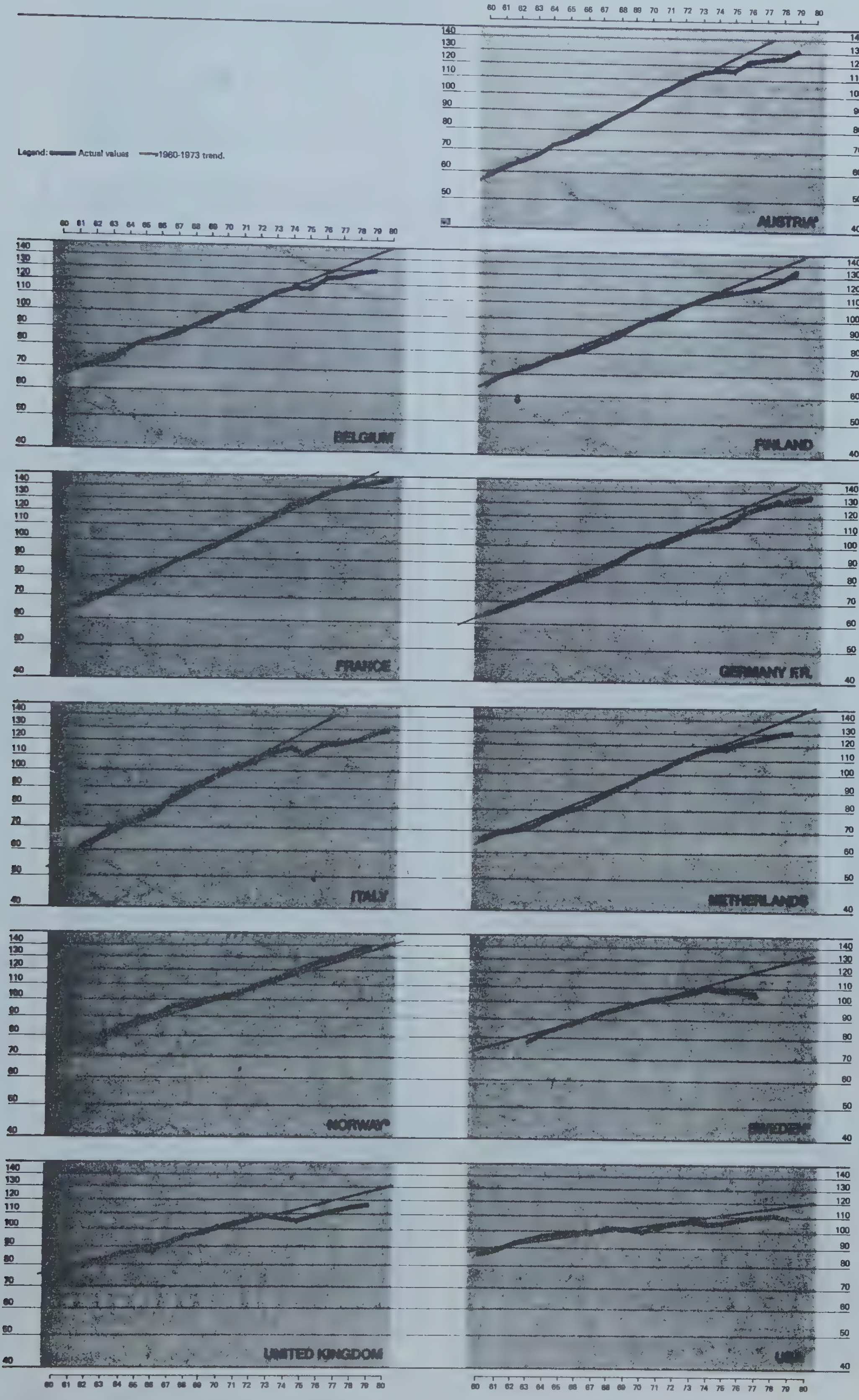
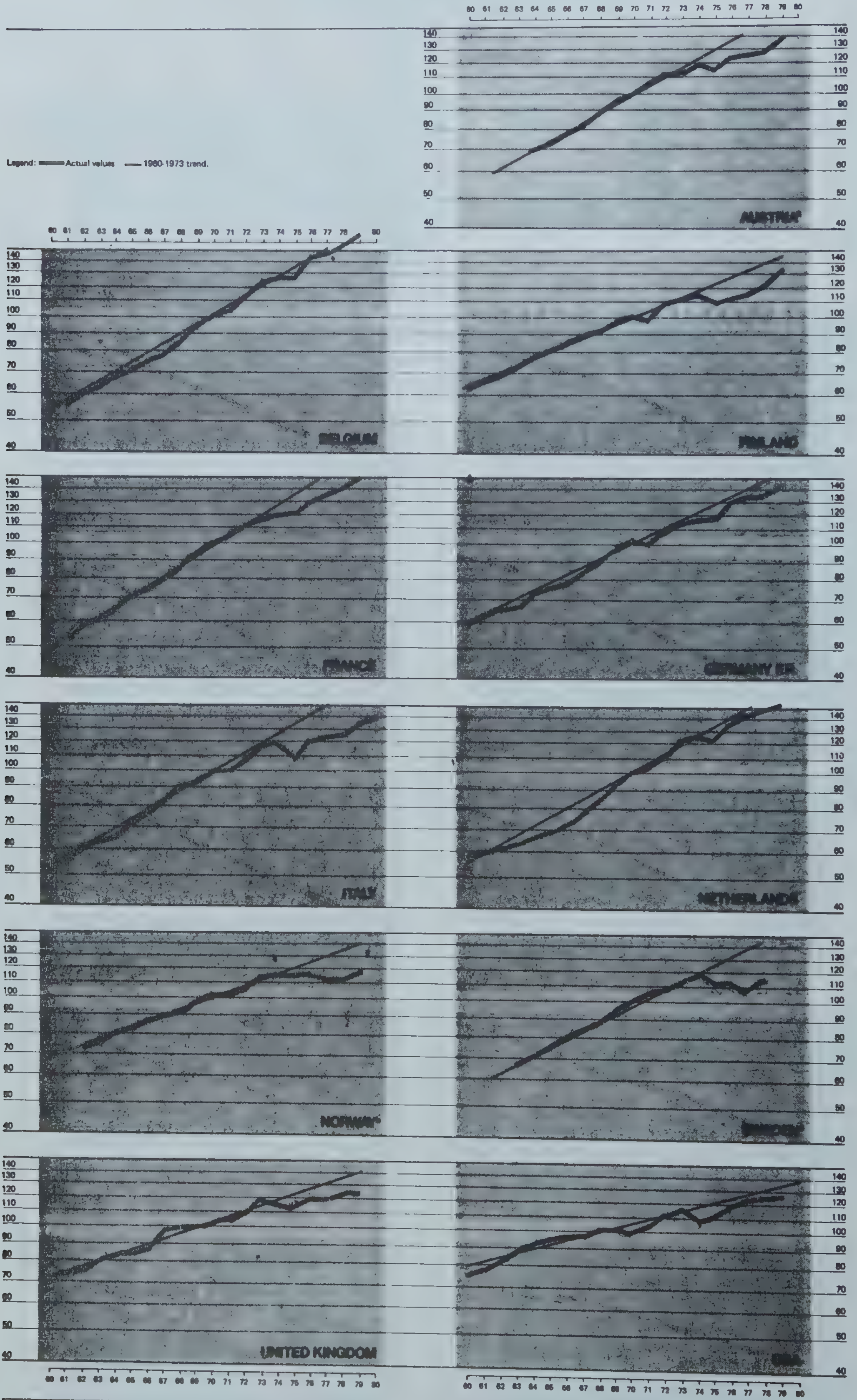


CHART 1.1.5 (*continued*)

(b) TOTAL MANUFACTURING



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[a] 1963-1979 [b] 1962-1979 [c] 1963-1978

TABLE 1.1.29

**A test for significant changes in the growth of productivity, 1960–1979**[a]

| | *Total economy break point* | | *Total manufacturing industry break point* | | *Non-manufacturing sector break point* |
|---|---|---|---|---|---|
| | *1970* | *1973* | *1970* | *1973* | *1973* |
| Austria | + | + | + | + | + |
| Belgium | + | + | | | + |
| Finland | + | + | + | +[b] | + |
| France | + | + | + | + | + |
| Germany, Fed. Rep. of | + | + | + | + | + |
| Italy | + | + | + | + | + |
| Netherlands | + | + | | | + |
| Norway | | +[c] | + | + | +[d] |
| Sweden | + | + | + | + | + |
| United Kingdom | + | + | + | + | +[b] |
| USA | + | +[b] | + | +[b] | +[b] |

[a] The equation fitted was: $\ln P_t = a + b\,T + c.D + d.\,(DT)$
where $T$ = Time, $D$ = Dummy, where $D = 0$ and $D = 1$ before and after 1969, respectively, to test for a break in the trend after 1969, and similarly before and after 1973 to test for a break in that year. Significant changes are indicated by +.

[b] In these cases the third independent term was omitted.
$\ln P_t = a + B.T + d\,(DT)$.

[c] Excluding the extraction of crude oil and natural gas.

[d] Including the extraction of crude petroleum and natural gas.

the 1960–1973 trend. (The only exception is Norway where, due to the oil-extraction industry, the levels of output per person employed for the total economy are above the 1960–1973 trend line.) It is therefore interesting to establish whether or not the actual values for 1974–1979 represent a statistically significant shift from the 1960–1973 trend.

To test this proposition an exponential time trend was fitted to the productivity series and a dummy variable was introduced to test whether the parameters of the function had changed after 1973.[74]

The results of the regression analysis are summarized[75] in table 1.1.29. It can be seen that out of 33 equations (11 countries and three sectors: total economy, total manufacturing and the non-manufacturing sector) there are 30 for which the statistical tests indicate the existence of a significant fall in the growth of productivity after 1973. There are only two exceptions, in the case of total manufacturing industry, Belgium and the Netherlands. In addition, because of the impact of oil, the dummy variable indicates a *higher* trend growth rate of productivity in the Norwegian non-manufacturing sector after 1973.

It may be argued that the period after 1973 is rather short and that the test gives too much weight to the impact of the recession in 1974/75 on the productivity trend after 1973. Regressions were therefore calculated which allowed for a change in the trend function after 1969. Such a procedure reduces the importance of the recession years 1974/75 on the longer term trend and may therefore be less biased in favour of the hypothesis of a significant structural break. However, as can be seen from table 1.1.29, this alternative test confirms in all cases the results of the first test. These results need to be qualified insofar as the trend rates of growth of productivity may not have been entirely separated from short-term fluctuations. This has always been a problem but since 1973 it has been made considerably more complex by the much larger fluctuations in output in the industrial market economies. Nevertheless the statistical evidence presented here would appear to support the general conclusion that, apart from three exceptions noted above, the trend growth rate of productivity in both the manufacturing and non-manufacturing sectors has fallen significantly since 1973.

The existence of a break in the trend of productivity is, taken by itself, nothing dramatic—at least not as long as the market economies are not confronted with a persistent *autonomous* decline in productivity growth. This raises the question of the

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[74] The equation fitted was as follows:

$$\log P_t = a + b.T + c.D + d\,(D.T)$$

where $P$ is productivity, $T$ is time, and $D$ is a dummy variable equal to zero for 1960–1973 and to one thereafter. The coefficients $c$ and $d$ indicate whether or not there has been a significant change in the intercept and in the trend growth rate respectively. A standard alternative method of testing for a structural break is the Chow-test (see, e.g. F. M. Fisher: "Tests of equality between sets of coefficients in two linear regressions: An expository note", *Econometrica,* vol. 38, No. 2, March 1970, p. 361–366). This test, however, has certain drawbacks in the present case as it indicates whether the whole function has shifted, but not whether this is due to changes in the intercept or in the slope coefficient (here, the trend growth rate of productivity) or both. The dummy technique provides a direct answer. A further advantage of the dummy technique is that it reduces, sometimes considerably, the degree of autocorrelation of the residuals. Indeed, it can be shown that the Chow-test has a bias in favour of accepting the hypothesis of a structural break in the presence of autocorrelation (see I. Consigliere: "The Chow-test with serially correlated errors" in *Rivista internazionale di Science sociali,* anno LXXXXIX, aprile–giugno 1981, pp. 125–136).

[75] The detailed regression results are available on request to the secretariat.

underlying causes of the slowdown and whether it can be explained in terms of the relationship of productivity with other economic variables.

### (b) *Factors behind the lower productivity growth in total manufacturing industry*

The most striking feature of the previous section was the universality of the slowdown in productivity growth after 1973. Not only was the decline observed for all 11 countries but it was also found to be pervasive across both manufacturing and non-manufacturing sectors of the economy. It seems unlikely that such a widespread phenomenon can have been caused by the accidental interplay of purely country-specific factors. On the contrary, a more plausible and also more promising approach to explaining the major part of the drop in productivity growth is to search for factors which are common to all countries.

During a recent international meeting of economists from OECD countries the following factors were cited, *inter alia*, as possible explanations:[76]

A decline in the growth of capital per worker;
Declining research and development activities;
Reductions in investment as a result of higher energy prices and environmental and safety regulations;
High inflation;
Change in the age-sex composition of the workforce (more younger workers, more, but less experienced, female workers);
A possible decline in the supply of major innovations;
Negative effects of shifts of employment out of manufacturing into lower productivity sectors;[77]
Changes in social values and attitudes in general, which are detrimental to risk taking, incentives to work[78] and investment;
Lower output growth.

The problem with many of these factors is that their negative impact is difficult to measure and in some cases amounts to little more than assertion based on anecdote. Moreover, many of them are unlikely to be able to explain the *sharp* drop in productivity growth after 1973: this would be the case with the changing age-sex composition of the labour force, changes in social values and attitudes, the lack of major innovations or the decline in R and D activity.

The positive impact of investment in R and D and of technological innovation on productivity is generally recognized although it is probably felt more in the longer run. However its quantitative importance is difficult to assess because of "several formidable conceptual and empirical problems".[79] In a recent study of the impact of R and D expenditure on the productivity slowdown in US manufacturing industry, it was found that the influence of the R and D variable fell to zero in the 1970s. It remains unclear, however, to what extent this reflects data problems or a real decline of the elasticity of output with respect to changes in R and D inputs.[80] It was estimated that the contribution of R and D to the rate of productivity growth was at most 0.4 per cent a year in the 1960s, while it dropped to a mere 0.1 per cent in the period 1969–1977. The general conclusion is that "it is unlikely that the recent productivity slowdown can be blamed primarily on the R and D slowdown".[81]

The impact of high inflation rates on productivity growth is generally thought to be important but is difficult to establish quantitatively. To a large extent the influence of inflation is already picked up in some of the other factors cited above: for example, lower rates of investment and of output growth are partly due to the increase of uncertainty generated by inflation, while output growth is also greatly affected by policies designed to combat inflation.

This leaves three major common factors which may account for the productivity growth slowdown in the industrial countries:

The increase in energy prices;
Changes in capital-intensity;
The lower growth of output.

The impact of the rise in oil prices in 1973 and 1974 on productivity growth is difficult to assess. The major controversy centres around the issue of complementarity or substitutability between energy on the one hand and capital and labour on the other. Quantitative evidence available for the USA suggests a rather limited contribution of higher energy prices to the productivity slowdown. The effect of the shift in relative prices are more likely to be spread over a relatively long time span and cannot account for the sudden fall in productivity growth, as it is unlikely that there is an instantaneous adjustment[82] to changes in relative factor prices. In a recent study of US manufacturing industry it was estimated that labour productivity would have risen faster by 0.2 percentage points during the period 1973–1978 if the relative price of energy had not changed.[83]

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[76] See: I. Leveson and J. W. Wheeler: "Structural Change and Policy: An Overview of the Papers and Commentary" in *Western Economies in Transition: Structural Change and Adjustment Policies in Industrial Countries*, edited by I. Leveson and J. W. Wheeler, Hudson Institute 1980, pp. 13–14.

[77] This factor was found to be of very small importance in the previous section.

[78] The rise of the hidden economy and the do-it-yourself movement are sometimes quoted as examples: "Since even the most energetic individual disposes of a certain amount of energy and no more, it is not surprising that a man who in his spare time is adding a bathroom to his house or insulating his neighbour's roof should take things easy at his regular place of work." See: R. Stone: "Whittling away at the Residual: Some thoughts on Denision's Growth Accounting", Review Article: *Journal of Economic Literature*, vol. XVIII (Dec. 1980), pp. 1539–1543.

[79] See National Science Board, *Science Indicators 1978*, Washington, DC, 1979, p. 23.

[80] Z. Griliches, "R and D and the Productivity Slowdown", *American Economic Review, Papers and Proceedings*, vol. 70, No. 2 (May 1980), pp. 343–348.

[81] *Loc. cit.*, p. 347.

[82] Even this hypothetical case would only provide an explanation for a once-and-for-all reduction in the *level* of productivity, not for the decline in growth rates.

[83] See: J. R. Norsworthy, H. J. Harper, K. Kunze: "The Slowdown in Productivity Growth: Analysis of some Contributing Factors", *Brookings Papers on Economic Activity*, No. 2, 1979, pp. 387–421. A similar figure is given by Maddison for productivity

TABLE 1.1.30

**Growth rates of capital intensity and labour productivity in total manufacturing industry**[a]
*(Average annual rates of change)*

| | *Real capital stock growth* | | *Elasticity*[b] *of output with respect to capital* | | *Growth of capital intensity (capital per person employed)* | | *Contribution of capital intensity to labour productivity growth* | | *Changes in the contribution to labour productivity growth* | *Actual change in labour productivity growth between the two periods* |
|---|---|---|---|---|---|---|---|---|---|---|
| | *1960–1973* (1) | *1973–1979* (2) | *1960–1973* (3) | *1973–1979* (4) | *1960–1973* (5) | *1973–1979* (6) | *1960–1973* (7)=(1)×(3) | *1973–1979* (8)=(2)×(4) | (9)=(8)−(7) | (10) |
| Austria | 5.0[c] | 4.3 | 0.415[c] | 0.366 | 4.9[c] | 5.1 | 2.0[c] | 1.9 | −0.1 | −2.4 |
| Finland | 6.0 | 3.8 | 0.417 | 0.371 | 3.7 | 4.2 | 1.5 | 1.6 | 0.1 | −1.3 |
| Germany, Fed. Rep. of | 6.9 | 2.6[d] | 0.367 | 0.299 | 6.6 | 4.9[d] | 2.4 | 1.5[d] | −0.9 | −1.5 |
| Norway | 4.9[e] | 5.4 | 0.298 | 0.306 | 3.9[e] | 5.2 | 1.2[e] | 1.6 | 0.4 | −2.6 |
| Sweden | 4.3[f] | 3.4[g] | 0.253 | 0.263 | 4.8[f] | 4.5[g] | 1.2[f] | 1.2[g] | – | −5.7 |
| United Kingdom | 3.5 | 2.4 | 0.293 | 0.280 | 4.0 | 3.9 | 1.2 | 1.1 | −0.1 | −2.8 |
| USA | 3.1 | 3.8 | 0.296 | 0.294 | 1.6 | 3.0 | 0.5 | 0.9 | 0.4 | −2.3 |

[a] The data for Austria include mining and quarrying, while the data for Norway include construction and mining and quarrying except crude oil and natural gas production.

[b] Share of gross profits in value added at factor cost. The elasticities for the period 1960–1973 were calculated as the arithmetical average of the factor income shares in 1960 and 1970. The weights for the second period refer to the 1973 income shares. The factor income shares for Austria refer to 1970 (1st period) and 1973 (2nd period).

[c] 1964–1973.

[d] 1973–1978.

[e] 1962–1973.

[f] 1963–1973.

[g] 1973–1978.

An attempt has been made here to assess the importance of changes in capital per worker on the productivity performance after 1973. Table 1.1.30 provides rough estimates of the net impact of changes in capital intensity on labour productivity growth in total manufacturing industry.[84] These estimates are based on a simple growth-accounting approach.[85]

Columns 1 and 2 of table 1.1.30 show the average annual growth rates of real gross capital stock for seven of the 11 countries. It can be seen that in contrast to the general trend there was no deceleration in the rate of capital stock accumulation in Norway and the USA, whereas the decline was quite sharp in Finland and the Federal Republic of Germany and somewhat smaller in the other three countries. Given the concommitant changes in employment, capital intensity growth accelerated in Norway, the USA and Finland, and remained broadly unchanged in Austria, Sweden and the United Kingdom. The only country with a sizeable fall in the growth of the capital-labour ratio is the Federal Republic of Germany.

The estimated contribution of the *change* in the growth of capital intensity to the change (decline) in productivity growth is given in column 9 of table 1.1.30. It is either very small or pulls in the opposite direction as in the case of Norway and the USA. The only exception is again the Federal Republic of Germany, where the contribution of changes in the capital-labour ratio appear to be fairly large. However, this latter estimate is strongly influenced by the large fall in the second period of the share of capital in factor incomes, which serves as a proxy for the elasticity of output with respect to capital. If an unchanged elasticity is assumed then the contribution of the change in capital intensity falls to about 40 per cent, which is, however, still fairly high.

Although these estimates are rough they do point to a fairly clear conclusion. With the possible exception of the Federal Republic of Germany, there is no evidence that changes in the growth of capital stock have had a major impact on the productivity slowdown after 1973.[86]

### *The role of lower rates of output growth*

This section examines the extent to which the decline in productivity growth can be associated with the relatively low growth of output which followed the recession of 1974–1975. (It is noteworthy that this

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growth in the total economy in major industrial countries. See A. Maddison, "Long-Run Dynamics of Productivity Growth", Banca Nazionale del Lavoro, *Quarterly Review*, No. 128, March 1979, p. 36.

[84] This table was inspired by a similar exercise carried out by W. Nordhaus for the non-farm business sector in major OECD countries. See: W. D. Nordhaus, "Economic Policy in the Face of the Declining Productivity Growth", *Cowles Foundation Discussion Paper No. 604*, pp. 15–16.

[85] This approach assumes a production function of the form

$$Y = L^x K^{(1-x)} e \cdot rt$$

where $L$ and $K$ stand for the input of labour and capital respectively, and $X$ and $(1-X)$ denote the respective elasticities of output with respect to changes in inputs. $r$ denotes the rate of technical progress or the famous "measure of ignorance". Labour productivity growth can be expressed as the sum of the growth rate of capital intensity, weighted by the elasticity of output with respect to capital, and the "residual" $r$, i.e.

$$(Y/L) = (1-x)\left(\frac{K}{L}\right) + r\,.$$

[86] The same conclusion is arrived at by W. Nordhaus in the above-cited exercise for the non-farm business sector in Canada, France, the Federal Republic of Germany, Italy, Japan, the United Kingdom and the USA. It is interesting to observe that for the non-farm business sector the decline in capital intensity growth is much less sharp in the Federal Republic and the corresponding contribution of this factor to the decline in productivity growth after 1973 is as small as for the other countries. Roughly the same finding is made in a more sophisticated approach followed by Norsworthy *et. al.*

factor is often absent in studies of the causes of the slowdown in labour productivity growth). Table 1.1.27 shows that in all the countries considered the fall in output growth rates have been much sharper than the corresponding changes in productivity growth. The high degree of association in the directional changes of output and productivity growth can also be seen clearly from chart 1.1.5.

The existence of a close association between the long run trends of output growth and productivity growth in industry has long been recognized in economic literature, and has been cast into the well-known Verdoorn Law which postulated a direct relationship between productivity growth and output growth.[87] Throughout most of this literature on the Verdoorn Law the direction of causation is postulated to run from output growth to productivity growth, the underlying rationale being that high rates of output growth lead to economies of scale, stimulate investment growth and the introduction of more efficient equipment, and facilitate organizational changes in general. (It is recognized that there may be feed-back effects of productivity change to output growth, particularly through relative price changes; but the argument that the basic direction of causation might equally well be from productivity growth to output growth runs into a number of difficulties: such a causal link would be unlikely to bring about the high degree of correlation observed in the past between changes in output and productivity since it implies unrealistic assumptions about the rank ordering of the price elasticities of demand facing different industries and disregards the endogenous nature of technical progress.)[88] Expectations of a lower long-run rate of output growth are therefore likely to lead to a downward shift in expectations of future market size and a reduction in the gains from scale economies, both internal and external, and to deter investment in new plant and equipment and in research and development.

As productivity is defined as output per person employed it is interesting to analyse what has been the relationship between output and employment in manufacturing industry over time and what this relationship implies for the strength of the link between output growth and productivity growth. A further question is whether this link has weakened since the oil price "shock" of 1973 and the recession of 1974–75.

In order to examine the strength and stability of the relationship between employment and output in manufacturing industry, a simple model has been estimated which takes into account the lagged response of employment to short-run changes in output. The model assumes that employment is positively related to changes in output and negatively related to change in the capital stock and technical progress. The adjustment of employment to changes in output is assumed to occur with a lag and to be proportional to the difference between the level of employment in a given period and actual employment in the previous period.[89]

This model was fitted to the annual data of employment and output in the manufacturing industries of the 11 countries for the period 1960–1979. The main focus was on testing for the stability of the parameters after 1973. The underlying rationale for this is obvious: if the relationship between employment and output can be shown to be strong and stable over time, then this implies that the low productivity growth after the recession can be partly associated with the weak output growth.[90]

The basic results are shown in table 1.1.31. For the period 1960–1979, the model explains the behaviour of employment quite well.[91] There are three exceptions. For Sweden the fit is rather poor compared to the other counries and the regression coefficient on

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[87] P. J. Verdoorn "Fattori che regolano lo sviluppo della produttività de lavoro", *L'industria*, 1949. See also W. E.G. Salter, *Productivity and Technical Change*, Cambridge University Press 1960; Nicholas Kaldor, *Causes of the Slow Rate of Growth of the United Kingdom*, Cambridge University Press, 1966; and the exchange between R. E. Rowthorn and Nicholas Kaldor in *The Economic Journal* of March 1975 and December 1976 respectively.

[88] See Kaldor *op. cit.* and K. A. Kennedy, *Productivity and Industrial Growth, The Irish Experience*, Oxford, 1971, chap. 6.

[89] The structure of the model is as follows: the desired or optimal level of employment ($E^*$) is a log-linear function of output ($Q$) and time ($T$), i.e.

(1) . . . $\log E^*_t = B_0 + B_1 \log Q_t + B_2 t$

where the time variable is a proxy for changes in the capital stock and technology.

The adjustment of employment to changing levels of output is assumed to occur with a lag according to the "stock adjustment principle":

(2) . . . $\log E_t - \log E_{t-1} = (1 - c)\,(\log E^*_t - \log E_{t-1})$.

Equation (2) implies that the changes in employment are a constant proportion of the difference between desired or optimal employment and the pre-period employment level. The higher the value of $c$ he lower the speed of adjustment. Combining the above two equations gives the following employment function:

(3) . . . $\log E_t = a + b \log Q_t + d t + c \log E_{t-1}$.

This equation measures the short-run relationship between employment and output. The long-run coefficients implied by equation (1) can be calculated by dividing the parameters of equation (3) through by (1–$c$), the adjustment coefficient. In fact, the following definitions hold true:

$$a = B_0\,(1-c);$$
$$b = B_1\,(1-c);$$
$$d = B_2\,(1-c).$$

The model is due to F. Brechling. See his "The Relationship between Output and Employment in British Manufacturing Industries", *The Review of Economic Studies*, vol. XXXII(3), No. 91, July 1965, pp. 187–216. See also F. Brechling and P. O'Brien: "Short-run employment functions in manufacturing industries: An international comparison", *The Review of Economics and Statistics*, vol. XLIX, No. 3, August 1967, pp. 179–207, and R. Ball; E. B. A. St. Cyr, "Short-term employment functions in British manufacturing industry", *The Review of Economic Studies*, vol. XXXIII(3), No. 95, January 1966, pp. 179–207.

[90] A similar approach has recently been followed in a study by R. Boyer and P. Petit on output and productivity in manufacturing industry (disaggregated into four major sub-sectors) in the Common market. However, their data extend only to 1977 and the tests applied rely on the calculation of prediction errors outside the estimation period 1960–1973. Such a procedure, however, cannot take into account the effect of offsetting shifts in the coefficients. See R. Boyer and P. Petit: "Employment and Productivity in the EEC", *Cambridge Journal of Economics*, vol. 5, (1981), pp. 47–58.

[91] The adjusted coefficient of determination is on average around 90 per cent and the coefficients are all significant at the 5 per cent level (two-tailed $t$-test) or above. The Durbin-Watson statistics indicate that the residuals are sufficiently free from autocorrelation. The only country with weak positive autocorrelation is the Federal Republic of Germany and the results have therefore to be interpreted with caution. For all the other countries the tests are either inconclusive or allow acceptance of the hypothesis of no positive autocorrelation at the 5 per cent level (Norway, USA).

### TABLE 1.1.31

### Short-term employment functions in manufacturing industry, 1960–1979[a]

| | a | b | c | d | $R^2$ | SEE | DW |
|---|---|---|---|---|---|---|---|
| Austria[b] . . . . . . . | 0.144 | 0.292 | 0.655 | −0.013 | 0.839 | 0.013 | 1.402 |
| | (3.807) | (4.204) | (5.215) | (−3.703) | | | |
| Belgium . . . . . . . | 0.296 | 0.450 | 0.515 | −0.029 | 0.985 | 0.008 | 1.566 |
| | (10.416) | (9.694) | (8.054) | (−10.761) | | | |
| Finland . . . . . . . | 0.193 | 0.414 | 0.645 | −0.016 | 0.986 | 0.013 | 1.368 |
| | (6.169) | (7.637) | (8.231) | (−5.982) | | | |
| France . . . . . . . | 0.131 | 0.197 | 0.734 | −0.012 | 0.881 | 0.010 | 1.346 |
| | (4.432) | (4.181) | (5.443) | (−4.417) | | | |
| Germany, Fed. Rep. of | 0.233 | 0.451 | 0.284 | −0.023 | 0.951 | 0.011 | 0.934 |
| | (7.925) | (7.724) | (3.147) | (−8.599) | | | |
| Italy . . . . . . . . | 0.045 | 0.103 | 0.682 | −0.004 | 0.936 | 0.011 | 1.179 |
| | (1.266) | (2.464) | (3.729) | (−1.276) | | | |
| Netherlands . . . . | 0.148 | 0.207 | 0.659 | −0.015 | 0.979 | 0.011 | 1.341 |
| | (3.903) | (3.348) | (7.288) | (−4.325) | | | |
| Norway[c] . . . . . . | 0.034 | 0.214 | 0.246 | −0.003 | 0.945 | 0.007 | 2.059 |
| | (2.687) | (4.107) | (1.242) | (−3.058) | | | |
| Sweden[d] . . . . . . | 0.071 | 0.141 | 0.730 | −0.007 | 0.636 | 0.018 | 1.097 |
| | (2.312) | (1.903) | (2.639) | (2.715) | | | |
| United Kingdom . . . | 0.113 | 0.291 | 0.345 | −0.013 | 0.960 | 0.012 | 1.393 |
| | (4.734) | (4.114) | (2.517) | (−5.327) | | | |
| USA . . . . . . . . | 0.090 | 0.510 | 0.364 | −0.011 | 0.942 | 0.017 | 1.700 |
| | (4.091) | (7.637) | (3.788) | (−4.902) | | | |

[a] The function estimated is

$$\log E_t = a + b \log Q_t + c \log E_{t-1} + d.t$$

where $E$ refers to employment, $Q$ to output and $t$ to time. $t$–values are given in parentheses below the coefficients; SEE and DW refer, respectively, to the standard error of estimate and the Durbin-Watson statistic.

[b] 1963–1979.

[c] 1962–1979.

[d] 1962–1978.

output is only significant at the 10 per cent level[92] (two-tailed *t*-test). This points to a rather low elasticity of employment with respect to output changes particularly before 1973: in fact, over the period 1963–1973 output rose at an average rate of 5.2 per cent, while employment *fell* at a rate of 0.5 per cent per year. The second exception is Italy, where the coefficient on time is clearly not significant.[93] This indicates low autonomous time-dependent productivity gains in this country.[94] Finally, a non-significant coefficient on the lagged employment variable for Norway suggests a rather fast adjustment of employment to changes in production.

The short-run coefficients on the output variable are in all countries rather low and in no case significantly above 0.5. This indicates a rather strong response of productivity to short run changes in output. The negative coefficient on the trend variable indicates a fairly strong rate of autonomous productivity gain in Belgium and the Federal Republic of Germany. This rate is, with the exception of Italy and Sweden, nowhere below 1 percentage point per year.

The regression coefficient (c) on the lagged employment variable stands for the speed with which employment is adjusting to changing output levels: the closer this is to one, the more slowly do firms (in the aggregate) adjust their labour input. For six out of the ten countries (Norway is excluded as the coefficient was found to be not significant) this coefficient varies between 0.65 and 0.75, suggesting a relatively slow rate of adjustment (Austria, Finland, France, Italy, the Netherlands and Sweden).[95] For the Federal Republic of Germany, the United Kingdom and the USA the adjustment is about twice as high, whereas Belgium falls between these two groups.

Thus the basic message conveyed by the results of table 1.1.31 is the existence of a strong link between changes in productivity and changes in output in the period 1960–1979.

It was shown above that for all countries there was a break in the growth of productivity after 1973. The question to be considered now is whether and to what extent this productivity slowdown can be associated with the lower rates of output growth after 1973. To test this hypothesis the regression equations in table 1.1.31 were re-estimated with the inclusion of a dummy variable to allow for a shift in the coefficients on output and time after 1973. The underlying rationale for this is as follows: if the role of output growth as a determinant of productivity growth has changed since 1973 then there should be a significant dummy on the output variable. On the other hand, a significant dummy on the time variable would indicate that there has been a significant change (decline) in the time-dependent (autonomous) rate of productivity growth. The main results of this exercise are as follows: among the 11 countries there are only two (the Federal Republic of Germany and the USA) for which the dummies clearly indicate a significant upward shift in the output coefficient after 1973; and there are only two significant dummies on the trend term (Italy and Sweden) indicating a slowdown in autonomous productivity growth.[96] The significance of the dummies on output for Italy and Sweden is dubious as there appears to be multicollinearity between the time and output variable.

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[92] A test for the presence of multicollinearity was made by excluding the output variable from the independent variable in the first run and the time variable in the second run. In both cases neither the remaining time variable nor the output variable were significant. In both cases the adjusted coefficient of determination was lower than in the base model.

[93] The coefficient on time remained non-significant when the regression was run excluding the output variable.

[94] This may reflect a rather slow speed of adjustment to the changing economic environment after 1973, as the coefficient on time was found to be significant at the 1 per cent level when the model was estimated for the period 1960–1973.

[95] With the caveat for Italy and Sweden that the coefficients on time and output, respectively are not significant.

The above tests refer to the short-run or cyclical relationship between employment (and productivity) and output. However, it was shown above[97] that the short-run coefficients are the product of two terms, namely the parameters of the long-run employment function on the one hand and the adjustment coefficient on the other.[98] It may therefore be asked whether the observed stability in the short-run relationship between employment and output reflects simply offsetting shifts between the long-run coefficients and the adjustment term. Or, in the case of significant shifts in the short-run coefficients on output and time, whether they also imply changes in the long-run coefficients.

As a test of the stability of the long-run coefficients is not possible within the framework of a linear regression model,[99] the secretariat has experimented with a non-linear regression model which allows a direct test for changes in the long-run coefficients[100] to be made. Experimentation with the dummy variable technique revealed that there are only two countries with significant changes in the long-run coefficients on output after 1973, namely the Federal Republic of Germany and the USA; and there was no case of a significant dummy on the long-run time trend variable.[101]

The dominating feature of the above tests is the stability of the basic employment-output and productivity-output relationships after 1973. There is also no evidence of a change in the long-run time-dependent productivity growth after 1973 and for only two countries (Italy and Sweden) was there a significant decline in the short-run time-dependent productivity growth, although neither of these is very large.

The general conclusion therefore is that the basic role of output growth as the engine of productivity growth has remained largely unaltered since 1973. This holds with the exception of the Federal Republic of Germany and the USA, where the estimated elasticity of productivity with regard to changes in output in the short run fell from about 0.5 to 0.3. This indicates that in these two countries after 1973 each percentage point increase in output was associated with a lower productivity increase of about 0.2 percentage points. How can this phenomenon be explained? It is striking that a change in the productivity-output relationship could only be detected for the United States and the Federal Republic of Germany. It might be argued that manufacturing industry in these two countries relies more heavily than in the other nine countries on very long production runs which lead to considerable economies of scale. A significant and persistent fall in demand will therefore make these industries *relatively* more vulnerable to losses in efficiency, as plant can only be adjusted gradually to a lower scale of operation. This argument would of course, reinforce the importance of (high) output growth for (high) productivity growth.[102]

Given the above relationships between employment and output and ignoring the lagged adjustment of employment to short-run changes in output, it is of considerable interest to ask at what rate of output growth employment in manufacturing industry would begin to rise. Since productivity growth is simply the difference between the growth rates of output and employment, this can be done by obtaining the implied relation between the growth rates of productivity and output from the basic model.[103] The coefficients of this relationship are shown in table 1.1.32 and a graphical illustration of the relationship is provided by chart 1.1.7.

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[96] This confirms the above-mentioned finding that for Italy the coefficient on time was significant for the period 1960–1973 but not for 1960–1979. The equations including the dummy variables are not reproduced here but are available, on request, from the secretariat.

[97] See p. 52 footnote 89 above.

[98] The short-run employment function was defined as:

(i) . . . $\log E_t = a + b \log Q_t + c \log E_{t-1} + d.T$

whereas in the long-run the optimal or "desired" level of employment ($E^x$) is dependent only on output ($q$) and the time trend variable ($T$):

(ii) . . . $\log E_t = B_0 + B_1 \log Q_t + B_2 . T.$

It can be shown that with the given adjustment function (see p. 52) the following relationship holds between the coefficients of the two functions:

$$a = (1-c)\, B_0;$$
$$b = (1-c)\, B_1;$$
$$d = (1-c)\, B_2.$$

[99] The reason is that within a linear model it is not possible to obtain direct estimates of the *B*–coefficient (see also footnote 98).

[100] The calculations were done with the UNCTAD/SAS. The iterative method followed the Gauss-Newton algorithm.

[101] There is one possible exception—Sweden—with a significant dummy on time. However, both the basic long-run coefficients on output and on the lagged employment variable are not significant and the result should therefore be treated with caution.

[102] The importance of a low rate of growth of demand and inadequate utilization of capacity in explaining the productivity slowdown in the US manufacturing industry has also been stressed in M. I. Nadiri, "Sectoral Productivity Slowdown", *American Economic Review,* Papers and Proceedings, vol. 70 (No. 2), May 1980, pp. 349–356, and M. I. Nadiri and M. A. Schankermann: "Technical change, returns to scale, and the productivity slowdown", *American Economic Review,* Papers and Proceedings, vol. 71 (No. 2), May 1981, pp. 314–318.

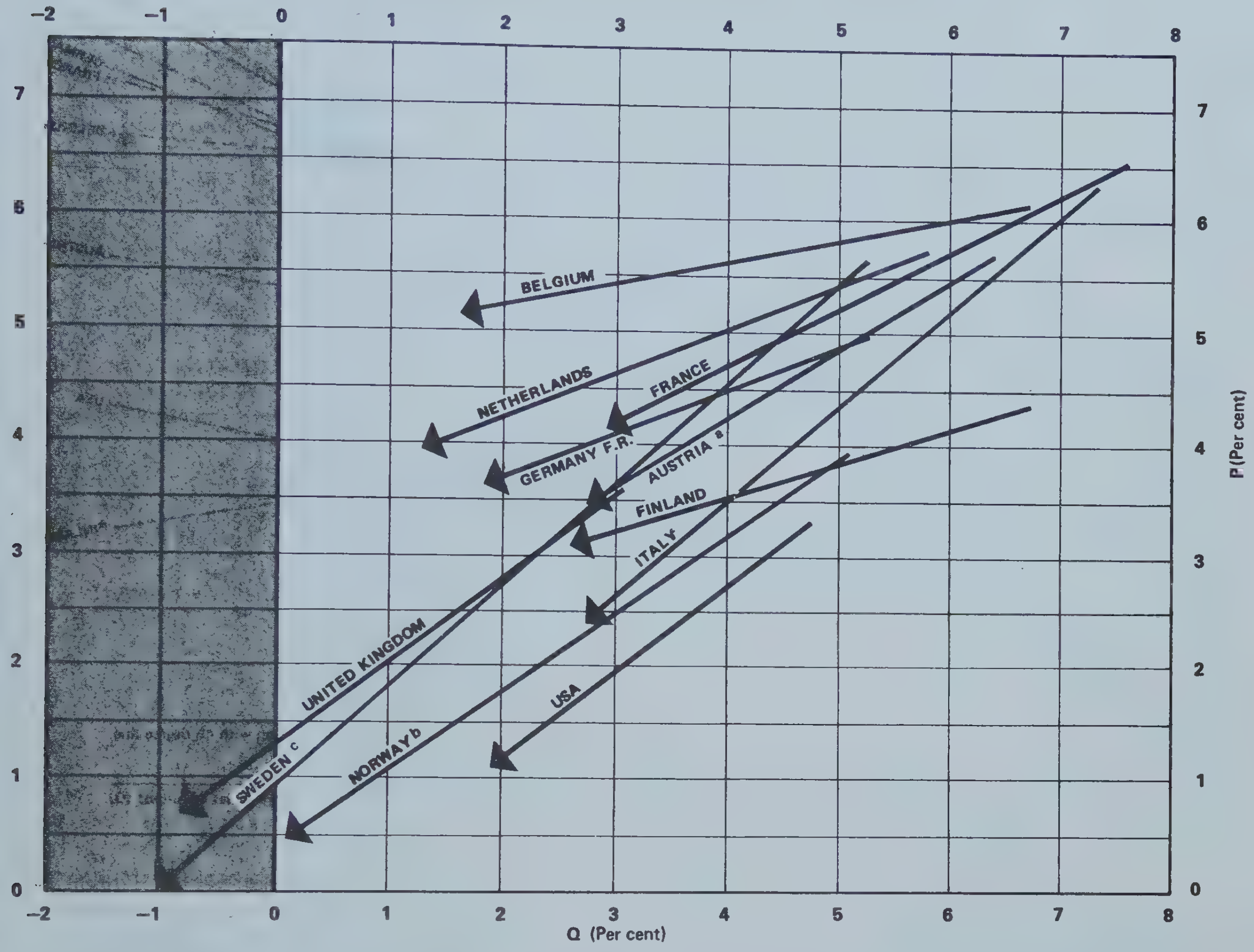
[103] The function is derived as follows. The first step is to differentiate equation (1) above (footnote 89, p. 52) with respect to time:

(i) . . . $e^* = B_2 + B_1 q,$

where $e$ and $q$ denote the growth rates of employment and output respectively. The intercept $B_2$ is simply the coefficient on the time

CHART 1.1.6

**Changes in average annual growth rates of productivity (*P*) and of output (*Q*) between 1960–1973 and 1973–1979 in manufacturing industry**



a 1963–1973 to 1973–1979. b 1962–1973 to 1973–1979. c 1963–1973 to 1973–1978.

The points of intersection between the 45 degree line and the individual country productivity functions indicate the growth rates of output which are possible in the short run without increasing employment (see also column 3 of table 1.1.32). These rates are very high for Belgium, France and the Netherlands (6–7 per cent), somewhat lower for Austria, Finland, the Federal Republic of Germany, Italy, the United Kingdom and Sweden[104] (4–5 per cent) and relatively low for the USA (2 per cent).

If allowance is made for the possibility of constant returns to scale the output growth rates which are possible without increasing employment are given by the time-dependent coefficient $B_2$. These fall in the range of 3–4.5 per cent in Austria, Finland, France, the Federal Republic of Germany and the Netherlands, but are somewhat lower in the other countries (see column 1 of table 1.1.32). A very high time-dependent productivity growth rate is again indicated for Belgium (about 6 per cent).

These are, of course, crude estimates which should only be taken as providing rough orders of magnitude. However, they do indicate that on the basis of the estimated relationships, the growth rates of output required to raise the level of employment in manufacturing industry are, in general, considerable. Moreover it can be seen in this context that low productivity growth, being itself a result of low output growth, is not favourable to an increase in employment.

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variable. As productivity growth is the difference between output growth and employment growth, it follows that

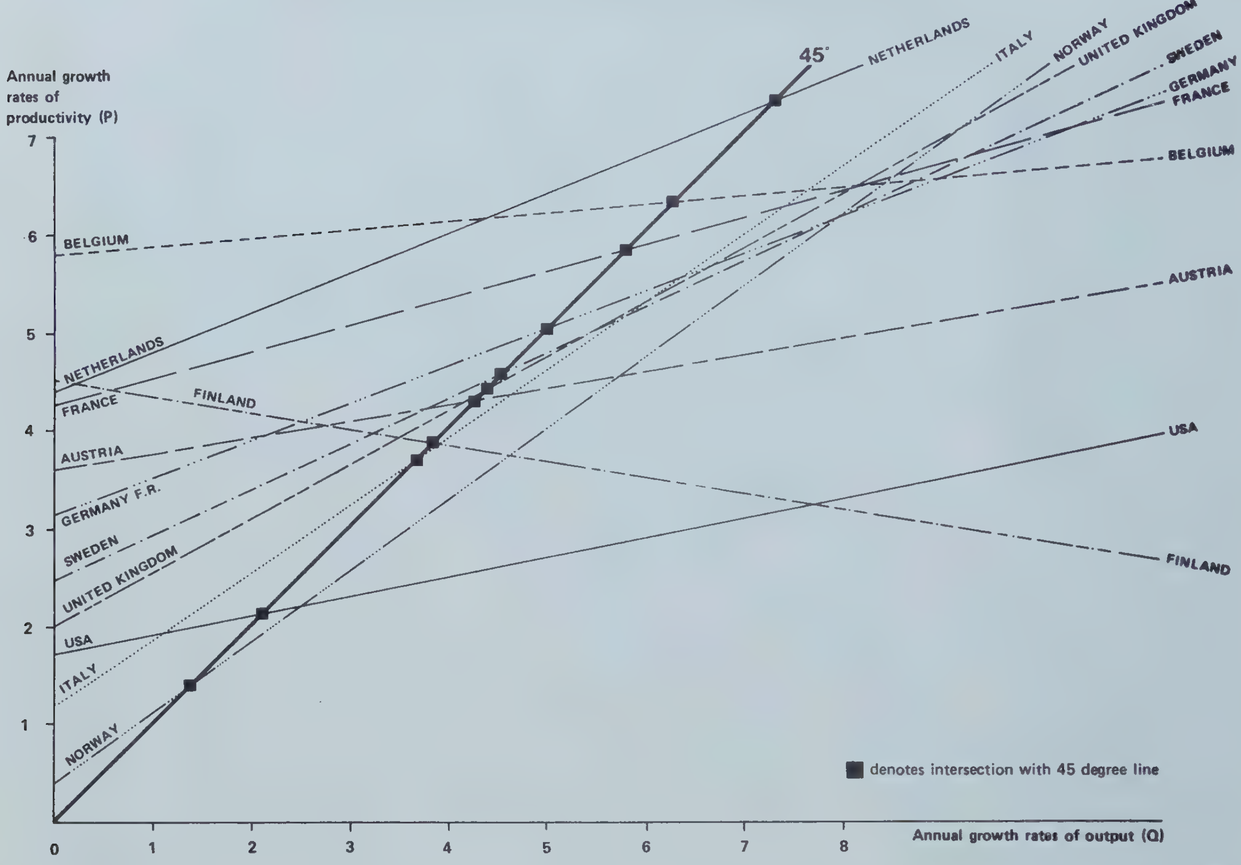
(ii) . . . $p^* = -B_2 + (1-B_1)q$.

This is the implied short-run relationship between productivity growth and output growth, as both long-run coefficients $B_1$ and $B_2$ are assumed to be constant. Note, however, that in this relationship "the lag of actual behind desired employment has been removed". (See F. Brechling and P. O'Brien, *loc. cit*, p. 285.)

[104] With the caveat that the coefficient on output was only significant at the 10 per cent level.

### CHART 1.1.7

**Implied productivity functions for total manufacturing industry, 1960–1979**[a]



[a] See notes to table 1.1.2.

### TABLE 1.1.32

**The implied relationship[a] between productivity growth and output growth in manufacturing industry; 1960–1979**

| Country | *Coefficients*<br>$-B_2$<br>(1) | <br>$(1-B_1)$<br>(2) | *Implied output growth*[b]<br>(3) |
|---|---|---|---|
| Austria | 3.63 | 0.154 | 4.3 |
| Belgium | 5.82 | 0.072 | 6.3 |
| Finland | 4.50 | −0.168 | 3.9 |
| France | 4.30 | 0.260 | 5.8 |
| Germany, Federal Republic of | 3.15 | 0.370 | 5.0 |
| Italy | 1.19 | 0.676 | 3.7 |
| Netherlands | 4.40 | 0.392 | 7.2 |
| Norway | 0.40 | 0.716 | 1.4 |
| Sweden | 2.47 | 0.478 | 4.7 |
| United Kingdom | 1.98 | 0.556 | 4.5 |
| USA | 1.69 | 0.197 | 2.1 |

[a] $$P^* = -B_2 + (1 - B_1)q.,$$
where $p$ and $q$ are the growth rates of productivity and output respectively. The coefficients which are derived from the employment model of table 5, are defined as follows:

$$B_2 = d/1 - c \text{ and } B_1 = b/1 - c$$

[b] This is the output growth rate which equilibrates output and productivity growth, given the employment functions of table 1.1.31. Rates of output growth larger than those in column 3 will lead, *ceteris paribus*, to higher levels of employment.

### (c) *Differential productivity growth within manufacturing industry*

All the results reported so far refer to productivity developments for *total* manufacturing industry. In this section there is an examination of differential productivity growth *within* manufacturing industry.

The main focus is on the following:

The contribution of internal shifts in the branch distribution of employment to over-all productivity growth in manufacturing industry;

A cross-section analysis of the relationship between changes in productivity, output and employment.

The analysis is based on the same 18-branch breakdown of manufacturing industry that has been used previously by the secretariat.[105] Annual data for the period 1968–1978 on output and employment in these 18 manufacturing industries were compiled for

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[105] See: Economic Commission for Europe, "Changes in the structure of west European manufacturing industry in the 1970s",

TABLE 1.1.33

**Growth rates of productivity (P) and output (Q) in manufacturing industry: direction of changes between 1968–1973 and 1973–1978**

HIGHER P/LOWER Q

| | |
|---|---|
| Belgium | Clothing, footwear |
| Finland | Clothing, footwear<br>Leather<br>Basic metals<br>Non-electrical machinery |
| France | Wood, furniture<br>Paper<br>Petroleum and coal products<br>Electrical machinery<br>Transport equipment |
| Germany, Fed. Rep. of | Textiles<br>Clothing, footwear<br>Paper<br>Printing<br>Petroleum and coal products<br>Rubber<br>Electrical machinery |
| Italy | Clothing, footwear<br>Basic metals<br>Electrical machinery<br>Transport equipment |
| Netherlands | Clothing, footwear<br>Non-electrical machinery |
| United Kingdom | Clothing, footwear<br>Rubber |
| USA | Textiles<br>Wood, furniture |

HIGHER P/HIGHER Q

| | |
|---|---|
| France | Tobacco<br>Printing<br>Rubber |
| Germany, Fed. Rep. of | Leather<br>Manufacturing n.e.s. |
| Netherlands | Printing |
| Norway | Tobacco<br>Printing |

LOWER P/LOWER Q

All branches for each country except those listed in the other three quadrants.

LOWER P/HIGHER Q

| | |
|---|---|
| Italy | Tobacco |
| Sweden | Leather<br>Petroleum and coal products |
| USA | Electrical equipment |

ten of the standard 11 countries[106] in the previous sections.[107] The average annual growth rates of output and productivity for 18 manufacturing branches in ten countries for the two periods 1968–1973 and 1973–1978 are shown in table 1.1.36 (pages 61–62).

The direction of change between the two periods in the growth rates of these two variables is summarized in table 1.1.33. Out of 180 cases (18 branches and 10 countries) there are 145 (somewhat more than 80 per cent) for which the productivity growth rates for 1973–1978 was below the 1968–1973 rate. The striking feature is that in 141 of these 145 branches the fall in productivity growth was accompanied by a decline in the rate of output growth.

In contrast, there were only 35 branches (20 per cent) with higher productivity growth in the second period,[108] which in 27 cases was achieved despite lower output growth. Nevertheless, these latter cases are exceptions to the general rule that there is a close positive association between the changes in growth rates of productivity and output. In any case, it is difficult to discern any systematic pattern for these 27 exceptions. The most conspicuous case is clothing

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*Economic Survey of Europe in 1980*, United Nations, New York, 1981, pp. 185–224; and Economic Commission for Europe, *Structure and Change in European Industry*, United Nations, New York, 1977.

[106] Austria had to be omitted because it was not possible to compile data at the same level of detail as for the other ten countries.

[107] These time series differ, on occasion substantially, from the series used in the secretariat's previous study (*Economic Survey of Europe in 1980*, chap. 4) owing to revisions of national statistics and additional information that became available during the year. In order to establish the long-term time series used in the previous sections it was necessary in a few cases, for reasons of consistency over time, to deviate from the definition of manufacturing industry used in this section. The growth rates of productivity, output and employment are therefore not always exactly the same as those shown in sections I and II.

[108] The productivity growth rates for paper (the Federal Republic of Germany) and wood, furniture (USA) were actually the same in both sub-periods.

TABLE 1.1.34

**Decomposition of changes in labour productivity in manufacturing industry (18 branches)**
*(Annual average rate of change)*

| | *1968–1973*[a] | | | | *1973–1978* | | | | *Differences (1973–1978 – 1968–1973)* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Country* | *Actual growth (A)* | *Intra-sectoral effect (B)* | *Shift effect (C)* | *Inter-action effect (D)* | *Actual growth (E)* | *Intra-sectoral effect (F)* | *Shift effect (G)* | *Inter-action effect (H)* | *Actual growth (E–A)* | *Intra-sectoral effect (F–B)* | *Shift effect (G–C)* | *Inter-action effect (H–D)* |
| Belgium | 8.21 | 7.78 | 0.22 | 0.21 | 4.29 | 3.70 | 0.58 | 0.01 | −3.92 | −4.08 | 0.36 | −0.20 |
| Finland | 4.02 | 3.76 | 0.23 | 0.03 | 2.13 | 1.83 | 0.31 | −0.01 | −1.89 | −1.93 | 0.08 | −0.04 |
| France | 4.88 | 4.84 | 0.10 | −0.06 | 3.91 | 3.80 | 0.06 | 0.04 | −0.97 | −1.04 | −0.04 | 0.10 |
| Germany, Fed. Rep. of | 4.73 | 4.59 | 0.09 | 0.05 | 3.53 | 3.83 | −0.16 | −0.14 | −1.20 | −0.76 | −0.25 | −0.19 |
| Italy | 3.91 | 3.55 | 0.57 | −0.21 | 1.92 | 1.77 | 0.16 | −0.01 | −1.99 | −1.78 | −0.41 | 0.20 |
| Netherlands | 8.01 | 7.48 | 0.39 | 0.14 | 4.42 | 3.72 | 0.60 | 0.09 | −3.59 | −3.76 | 0.21 | −0.05 |
| Norway | 4.26 | 4.25 | 0.01 | – | −0.09 | −0.12 | 0.15 | −0.12 | −4.35 | −4.37 | 0.14 | −0.12 |
| Sweden | 4.81 | 4.68 | 0.19 | −0.05 | 0.21 | 0.04 | 0.23 | −0.06 | −4.60 | −4.64 | 0.04 | −0.01 |
| United Kingdom | 3.43 | 3.38 | 0.04 | 0.01 | 0.52 | 0.39 | 0.14 | −0.01 | −2.91 | −2.99 | 0.10 | −0.02 |
| USA | 3.70 | 3.85 | −0.11 | −0.05 | 1.36 | 1.23 | 0.14 | −0.01 | −2.34 | −2.62 | 0.25 | 0.04 |

[a] France: 1970–1973.

and footwear (six countries), a branch which has come under increasing competitive pressure from the so-called "newly industrializing countries". The remaining branches are more dispersed and in general each occurs in no more than two of the ten countries.

On an individual country basis, it can be seen that about 25 per cent of these "deviations" are for the Federal Republic of Germany (seven branches), followed by France (five) and Finland and Italy (four). These deviations reflect the efforts undertaken in a few branches to rationalize production in the presence of absolute or relatively shrinking demand.

The ranking of branch productivity growth rates changed considerably between the two periods 1968–1973 and 1973–1978: nowhere is the rank correlation coefficient between the two rankings significant at the 5 per cent level.

A notable feature of the differential productivity changes after 1973 is the fact that in nearly all countries at least one of the traditional unskilled labour-intensive industries (textiles, clothing and footwear, and leather) either maintained or considerably improved its relative position in the productivity growth hierarchy. For example, textiles showed the highest productivity growth of all the 18 branches in Finland[109] and the USA and was among the highest branch growth rates in the Federal Republic of Germany (rank 3) Italy (5), Sweden (4) and the United Kingdom (6). A similar picture emerges for clothing and footwear (with the exception of Norway and Sweden) and leather (with the exception of Belgium, Italy and the Netherlands).

The other branch which either maintained or reached a position at the top of the productivity growth ladder is electrical equipment (with the exception of Finland). In contrast, the relative position of chemicals, which during 1968–1973 had one of the highest productivity growth rates, deteriorated, on occasion considerably.[110] This branch is likely to have been particularly affected by the loss of scale economies due to lower output growth.

*The importance of employment shifts within manufacturing industry*

The analysis of productivity growth by branches showed that there were large changes in the growth hierarchy after 1973. Employment in total manufacturing declined absolutely between 1973 and 1978 in eight of the ten countries,[111] and rose, at annual rates of 0.4–0.5 per cent, in Italy and the USA. It is therefore interesting to estimate the contribution of the resulting changes in the allocation of labour between the different branches of manufacturing industry to changes in productivity. This was done for the periods 1968–1973 and 1973–1978 and the results are shown in table 1.1.34. (The method underlying table 1.1.34 is the same as that employed for the decomposition of labour productivity changes for the total economy in table 1.1.28.)

The results suggest that in both periods movements of labour between manufacturing branches have had in general only a small impact on the change in total productivity. For the period 1968–1973 the largest contribution (about 15 per cent) was in Italy; a similar proportion for 1973–1978 is found in Belgium, Finland and the Netherlands. The major exception is Sweden, where virtually all of the very low productivity growth (0.2 per cent per annum) between 1973 and 1978 is due to the shift of labour to branches with higher productivity levels. A relatively important shift effect also in the presence of relatively low productivity growth after 1973, is also found in the United Kingdom.

There are two countries with a negative shift effect, the USA (1968–1973) and the Federal Republic of

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[109] The growth rate of productivity for textiles was already relatively high in Finland before 1973.

[110] The major exception is Italy.

[111] In fact, employment had already declined between 1968 and 1973 in the Netherlands and the United Kingdom, while it stagnated in Sweden.

TABLE 1.1.35

**Linear regression of branch productivity growth (P) on output growth (Q) in ten countries**[a]

| | *1968–1973* | | | | *1973–1978* | | | |
|---|---|---|---|---|---|---|---|---|
| | *Regression coefficients* | | | | *Regression coefficients* | | | |
| | *a* | *b* | *R²* | *SEE* | *a* | *b* | *R²* | *SEE* |
| Belgium | 2.46<br>(3.24)* | 0.60<br>(7.45) | 0.78 | 1.81 | 3.53<br>(7.70) | 0.55<br>(4.47)* | 0.56 | 1.94 |
| Finland | 1.84<br>(1.58) | 0.27<br>(2.21)** | 0.23 | 2.07 | 1.75<br>(3.20)* | 0.43<br>(2.16)** | 0.23 | 2.11 |
| France[b] | 0.05<br>(0.05) | 0.75<br>(4.98)* | 0.62 | 1.90 | 2.40<br>(8.11)* | 0.46<br>(5.17)* | 0.64 | 0.90 |
| Germany, Fed. Rep. of | 2.32<br>(4.19)* | 0.42<br>(4.10)* | 0.51 | 1.48 | 4.01<br>(10.45)* | −0.13<br>(−0.63) | 0.02 | 1.55 |
| Italy[c] | 2.14<br>(1.27) | 0.18<br>(0.62) | 0.03 | 2.39 | 0.34<br>(1.09) | 0.62<br>(5.05)* | 0.65 | 0.61 |
| Netherlands[c] | 4.12<br>(5.61)* | 0.51<br>(4.84)* | 0.63 | 2.18 | 3.53<br>(7.03)* | 0.30<br>(2.21)** | 0.26 | 2.00 |
| Norway[d] | 1.43<br>(1.71) | 0.68<br>(6.61)* | 0.76 | 2.51 | −0.34<br>(0.58) | 0.47<br>(2.29)** | 0.27 | 2.22 |
| Sweden | 5.29<br>(6.92)* | −0.05<br>(−0.32) | 0.01 | 2.28 | 0.45<br>(0.65) | 0.16<br>(0.74) | 0.03 | 2.67 |
| United Kingdom[c] | 1.39<br>(3.80)* | 0.68<br>(5.92)* | 0.71 | 0.88 | 1.14<br>(3.74)* | 0.68<br>(4.64)* | 0.61 | 1.03 |
| USA | 2.48<br>(3.45) | 0.35<br>(2.18)** | 0.23 | 1.23 | 0.20<br>(0.45) | 0.72<br>(3.67)* | 0.46 | 1.47 |

[a] The equation estimated is $P_i = a + b\,Q_i$, where $P_i$ and $Q_i$ are the compound growth rates of productivity and of output in branch i (i = 1...18). Coefficients significant at 1 per cent are indicated by one asterisk, at 5 per cent by two.

[b] 1970–1973 instead of 1968–1973; 17 branches (excluding rubber).

[c] 16 branches (excluding tobacco and petroleum and coal products).

[d] 16 branches (excluding leather and rubber).

Germany (1973–1978), although in both cases its importance is small.

In general the relative contribution of the shift effect increased slightly in the period 1973–1978, which means that changes in the structure of manufacturing employment cannot help to explain the *decline* in productivity growth after 1973 (see last four columns of table 1.1.34). The exceptions are the Federal Republic of Germany and Italy, where the net re-allocation of labour to industries with higher productivity either ceased between 1973 and 1978 (Federal Republic of Germany) or slowed down considerably (Italy). In both countries this effect accounts for about 20 per cent of the difference in total productivity growth between 1968–1973 and 1973–1978.

### *Productivity growth and output growth*

The statistical evidence presented above confirmed the positive association between changes in total productivity and total output in manufacturing. Does this association continue to hold across the individual branches of manufacturing industry?

There are, in fact, a number of reasons why the cross-sectional relationship between productivity and output growth might have become less strong or even have vanished after 1973.[112] One reason is that branches facing declining growth rates of demand or even absolutely falling levels of output are forced to rationalize production by reducing labour input absolutely and introducing modern technology. This applies especially to the traditional unskilled labour-intensive industries (textiles, clothing, leather) which were found to exhibit in general particularly fast productivity growth over the period after 1973.

The linear regression of productivity growth on output growth, by branch, for the period 1968–1973 and 1973–1978 is shown for each of the ten countries in table 1.1.35. In general the relationship holds fairly well for both periods.[113] There are two major exceptions in the period 1968–1973: there was no significant relationship at all between the two variables in Italy and Sweden. This suggests that the role of increasing returns to scale in these countries was rather weak in this period.[114] It should also be noted that for France, a simple *t*-test reveals that for 1968–1973 the coefficient on output is not significantly less than one, an indication that *on average* all output gains were achieved without raising employment. However, it can be seen that the correlation between productivity growth and output growth is far from perfect and the measured relationship is therefore not a statistical illusion based on a regression of output growth on itself.[115]

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[112] See: P. B. W. Rayment, "Structural Change in Manufacturing Industry and the Stability of the Verdoorn Law", *Economia Internazionale*, vol. XXXIV, No. 1 (1981), p. 119.

[113] For the period 1968–1973, the regression coefficients on the output variable are significant at the 1 per cent level in six countries and at 5 per cent in a further two. In the second period the same coefficient is significant at 1 per cent in five countries and at 5 per cent in three. For the United States the fit of the equation in the first period can be improved significantly by the exclusion of the "tobacco" and "rubber" branches—the coefficient on output is then significant at one per cent and the $R^2$ rises to 0.40.

[114] The Spearman rank correlation coefficient between the growth rates of output and productivity in the 18 branches is 0.04 (Italy) and −0.09 (Sweden).

In the second period, 1973–1978, the relationship holds in eight of the ten countries. The exceptions are Sweden, again, and the Federal Republic of Germany. However, it now holds rather strongly in Italy. The relationship is rather weak for Finland (as in the earlier period) and appears to have lost much of its strength in Norway and the Netherlands, as can be seen from the considerable fall in the coefficient of determination. In contrast, the relationship appears to have strengthened in the USA. However, as in France for the period 1968–1973, the regression coefficient on output is not significantly different from one.[116]

The regression coefficients on output—in those cases where they are signifiant in both sub-periods—have remained virtually unchanged in Belgium and the United Kingdom, suggesting a very stable relationship between productivity growth and output growth. The coefficient has fallen in the second period in France, the Netherlands and Norway, but rose in Finland (slightly) and in the USA.

A formal test[117] of the stability of the relationship between productivity growth and output growth indicated no significant shift in either the intercept or the coefficient on output in Belgium, Finland, the Netherlands, Norway and the United Kingdom. For France and the USA the dummy variables indicate no significant change in the coefficient on output, whereas the intercept has moved significantly upwards in France and downwards in the USA.

There are a number of differences in the regression coefficients for the two periods; however, only in two cases (namely, the intercepts in the equations for the USA and France) are sufficiently large to support the hypothesis of a "structural change".[118] There is an obvious change in the relationship in the Federal Republic of Germany and in Italy in that it was found to exist in only one of two periods examined. These non-significant relationships (and including those in Sweden) are probably explained by the factors already mentioned, namely the exceptional efforts of traditional labour-intensive industries to rationalize production in the presence of low demand and increased competition from abroad, and the difficulty in some branches of adjusting the existing production technology to a lower level of output.

### *Conclusion*

The results of the analysis presented here suggest that the relationship between the growth of productivity and of output has not changed very much and that in general a relatively large proportion of the inter-industry variation in productivity growth can be explained by differences in output growth. Both the inter-industry analysis and the time-series analysis for total manufacturing suggest that the deceleration of productivity growth since 1973 is closely associated with the widespread fall in the rates of growth of manufacturing output.[119] More precisely, the underlying assumption of the statistical analysis of this note is that the direction of causation is basically from output growth to productivity, although there may well be feed-back effects from the latter to the former. However some economists do argue that the chain of causality can work in the opposite direction and indeed this would seem to be implicit in the policies of some governments which are attempting to stimulate output growth by acting directly on certain "supply-side" problems, such as inadequate investment in modern plant and equipment and in research and development. It may also be the case that a low rate of growth and falling profits can increase the pressure on enterprises to raise productivity and reduce costs, the alternative being bankruptcy. The exceptional rates of productivity increase that have been noted above in a number of traditional labour-intensive industries since 1973 may be evidence of such a response; but they could also represent a temporary acceleration in productivity growth due to high rates of closure of the more inefficient enterprises or a once-and-for-all effect due to government subsidies for investment or increased protection from imports.

## (vii) Investment trends and potential output growth in manufacturing industry

During the current period of stagflation there has been a substantial decline in real fixed capital formation. Table 1.1.37 compares the post-1973 years

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[115] This would occur in the case of zero employment growth, which is not the case here. The arithmetic average of the individual branch employment growth rates is 1.54 with a standard deviation of 2.03.

[116] As in the case of France, the coefficient of determination is not very high (0.46), which suggests that the regression is not a spurious one. The interpretation is therefore that employment, on average rose less than proportionally in branches which showed relatively fast rates of output growth.

[117] This was done by pooling the observations for the two periods and introducing dummy variables, which allow the coefficients to change in the 1973–1978 period, i.e.

$$P = a_1 + b_1Q + a_2D + b_2 (D.Q)$$

where D is a dummy variable with a value of zero for the period 1968–1973 and 1 for the period 1973–1978. The coefficients $a_2$ and $b_2$ indicate whether or not there has been a significant change in, respectively, the intercept and the coefficient on output growth.

[118] The relationship between productivity growth and output growth can also be studied by looking at its mirror image, the association between employment growth and output growth. Clearly, if $P = a + b\,Q$ and $E = Q - P$ then it follows that $E = -a + (1-b)\,Q$. A significant relationship between productivity growth and output growth implies, in general, that there is also a significant association between changes in employment and changes in output. There are, however, two exceptions. If the b coefficient is not significantly different from 1 then the (1–b) coefficient will not be significantly different from zero whereas a b-coefficient which is not significantly different from zero implies that (1–b) is not significantly different from 1. The latter is the case for the Federal Republic of Germany in 1973–1978 and for Sweden in both periods; the former case applied to France (1968–1973) and the USA (1973–1978).

[119] A similar conclusion based on a micro-based study of Swedish industry is reached by Bo Carlsson *Technical Change and Productivity in Swedish Industry in the Post-War Period*, Industrial Institute for Economic and Social Research, Stockholm, 1980.

### TABLE 1.1.36

### Compound growth rates of productivity (P) and output (Q) in manufacturing industry, 1968–1978

| | *Belgium* | | | | *Finland* | | | | *France* | | | | *Germany, Fed. Rep.* | | | | *Italy* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *1968–1973* | | *1973–1978* | | *1965–1973* | | *1973–1978* | | *1970–1973* | | *1973–1978* | | *1968–1973* | | *1973–1978* | | *1968–1973* | | *1973–1978* | |
| | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* |
| Food, drink | 6.6 | 5.3 | 4.5 | 2.2 | 2.3 | 5.3 | 1.9 | 0.7 | 7.0 | 6.7 | 4.0 | 3.7 | 2.9 | 2.6 | 1.1 | 0.2 | 6.4 | 6.1 | 2.2 | 2.2 |
| Tobacco | 4.7 | 4.7 | 2.2 | −0.2 | 2.8 | 2.8 | 1.0 | −0.3 | −0.8 | – | 3.1 | 3.9 | 6.3 | 1.9 | 6.0 | −0.3 | 10.4 | 2.0 | 3.2 | 5.6 |
| Textiles | 7.8 | 5.8 | 2.7 | −4.6 | 7.3 | 7.7 | 6.5 | 0.4 | 7.7 | 5.0 | 2.5 | −2.0 | 3.2 | 0.5 | 5.8 | −0.7 | 6.5 | 3.7 | 2.1 | 1.1 |
| Clothing, footwear | 1.4 | 1.6 | 5.3 | −4.3 | 0.1 | 6.0 | 3.2 | 1.3 | 1.7 | 2.3 | 1.5 | −2.1 | 3.2 | −0.2 | 3.6 | −2.0 | 1.4 | 2.6 | 1.8 | 1.7 |
| Leather | 0.4 | −4.6 | −2.6 | −8.9 | 0.3 | 1.9 | 5.6 | – | 5.5 | 3.2 | 1.6 | −1.2 | 0.2 | −3.2 | 5.9 | −0.3 | 1.7 | 2.9 | 1.2 | 1.9 |
| Wood, furniture | 8.4 | 9.9 | 4.8 | 1.2 | 4.7 | 8.6 | −1.1 | −3.0 | 4.3 | 6.7 | 4.7 | 2.9 | 8.6 | 7.6 | 2.0 | −0.2 | 5.4 | 6.8 | 2.3 | 2.6 |
| Paper | 7.4 | 7.4 | 6.7 | 0.9 | 3.1 | 6.8 | −0.8 | −1.5 | 2.0 | 3.3 | 4.4 | 2.9 | 3.1 | 3.2 | 3.1 | −1.0 | 2.7 | 7.2 | 0.7 | 0.4 |
| Printing | 1.5 | 2.5 | −2.3 | −5.1 | 3.7 | 5.5 | 2.8 | 3.3 | −1.0 | 1.0 | 3.8 | 2.5 | 2.7 | 3.6 | 2.9 | 0.3 | 1.2 | 3.5 | 0.9 | 1.2 |
| Chemicals, plastics | 14.7 | 18.8 | 4.3 | 3.8 | 3.1 | 14.1 | 0.9 | 0.5 | 6.3 | 9.0 | 3.1 | 3.1 | 7.7 | 10.1 | 3.1 | 2.3 | 3.6 | 7.8 | 3.3 | 4.0 |
| Petroleum and coal products | 6.1 | 3.7 | 2.3 | −0.4 | 4.5 | 12.3 | 0.6 | 4.9 | 2.5 | 6.1 | 3.0 | 0.8 | 2.8 | 6.3 | 6.6 | −2.6 | 2.8 | 6.5 | −6.5 | −2.1 |
| Rubber | 8.3 | 10.9 | 6.0 | 3.5 | 7.9 | 6.1 | 1.4 | −0.8 | −3.9 | 1.4 | 2.3 | 1.8 | 3.1 | 4.2 | 3.2 | −0.1 | 2.0 | 3.9 | 0.3 | −0.5 |
| Non-metallic minerals | 10.1 | 8.4 | 5.2 | 0.7 | 7.0 | 11.4 | 2.0 | −0.8 | 7.4 | 7.8 | 2.1 | 0.4 | 5.5 | 6.4 | 4.2 | 0.1 | 4.2 | 4.0 | 1.7 | −1.6 |
| Basic metals | 3.8 | 6.8 | −0.6 | −3.7 | 4.5 | 11.0 | 5.4 | 8.1 | 4.9 | 5.1 | 2.6 | 1.3 | 4.6 | 3.7 | 3.5 | 1.0 | 1.1 | 5.0 | 1.2 | 3.1 |
| Metal products | 10.4 | 10.9 | 5.6 | 1.8 | 6.9 | 12.4 | 0.9 | 0.7 | 2.0 | 4.0 | 1.8 | 1.0 | 4.2 | 5.3 | 3.3 | 2.0 | 2.0 | 6.4 | 1.7 | 2.3 |
| Non-electrical machinery | 7.9 | 11.5 | 5.5 | 3.8 | 3.3 | 9.4 | 5.6 | 4.3 | 9.1 | 10.5 | 6.6 | 5.2 | 3.9 | 6.2 | 3.5 | 1.2 | 6.9 | 4.1 | 0.8 | 2.0 |
| Electrical equipment | 7.9 | 13.3 | 6.7 | 3.0 | 5.5 | 18.3 | −0.5 | 1.0 | 4.6 | 9.3 | 5.6 | 6.1 | 5.6 | 9.5 | 6.2 | 3.7 | −1.0 | 6.0 | 1.2 | 3.0 |
| Transport equipment | 10.9 | 15.3 | 3.1 | 4.5 | 2.0 | 6.2 | 1.3 | 1.4 | 2.7 | 6.8 | 4.9 | 5.5 | 4.3 | 8.0 | 3.6 | 3.8 | 1.1 | 6.4 | 1.7 | 1.9 |
| Manufacturing n.e.s. | 10.1 | 8.0 | 4.5 | 2.3 | 5.9 | 11.0 | 3.9 | 0.9 | 7.2 | 9.8 | 2.9 | 4.7 | 1.6 | 0.4 | 3.4 | 2.6 | 4.8 | 10.6 | 4.2 | 5.5 |

### Table 1.1.36 (*continued*)

### Compound growth rates of productivity (P) and output (Q) in manufacturing industry, 1968–1978

| | *Netherlands* | | | | *Norway* | | | | *Sweden* | | | | *United Kingdom* | | | | *USA* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *1968–1978* | | *1973–1978* | | *1968–1973* | | *1973–1978* | | *1968–1973* | | *1973–1978* | | *1968–1973* | | *1973–1978* | | *1968–1973* | | *1973–1978* | |
| | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* | *P* | *Q* |
| Food, drink | 6.6 | 5.5 | 4.1 | 1.5 | 3.5 | 4.1 | 1.3 | 1.0 | 2.5 | 0.3 | 0.6 | 0.3 | 2.7 | 2.8 | 1.8 | 0.4 | 6.0 | 5.3 | −0.4 | −0.3 |
| Tobacco | 6.1 | 6.1 | 4.0 | 0.6 | −0.4 | −4.7 | 0.9 | 0.9 | 2.2 | 3.6 | 0.4 | 1.7 | 2.3 | 1.6 | 1.3 | 0.3 | 4.9 | 3.3 | 2.9 | 0.3 |
| Textiles | 7.6 | 0.5 | 3.8 | −4.5 | 5.0 | 1.1 | 0.3 | −1.7 | 10.7 | 3.7 | 2.2 | −3.7 | 4.3 | 1.3 | 0.6 | −3.3 | 4.1 | 4.7 | 4.6 | 2.1 |
| Clothing, footwear | 3.2 | −4.5 | 5.9 | −6.2 | 4.1 | −2.4 | −1.6 | −7.2 | 6.1 | −3.2 | −1.7 | −10.1 | 2.6 | 2.4 | 3.2 | 0.5 | 4.0 | 4.1 | 3.6 | 2.4 |
| Leather | 4.5 | −4.5 | 1.0 | 5.6 | 4.6 | 3.3 | 2.0 | −5.9 | 6.0 | −5.0 | 4.0 | −1.7 | 1.2 | −0.6 | −0.2 | −2.3 | 3.4 | −0.6 | 1.5 | −0.8 |
| Wood, furniture | 6.2 | 4.6 | 1.3 | 1.9 | 6.4 | 9.6 | 0.8 | 0.4 | 4.7 | 5.3 | −0.4 | −1.9 | 3.0 | 4.5 | −1.9 | −3.5 | 2.1 | 4.2 | 2.1 | 2.1 |
| Paper | 6.0 | 3.4 | 2.0 | – | 6.3 | 4.0 | 0.6 | −2.5 | 5.6 | 5.6 | −1.8 | −1.4 | 2.2 | 2.2 | −0.1 | −2.5 | 6.2 | 6.4 | 0.8 | 0.8 |
| Printing | 2.0 | 2.5 | 6.1 | 5.1 | −2.0 | −0.3 | −1.3 | 0.2 | 4.7 | 4.1 | 0.2 | −0.5 | 4.3 | 3.7 | 0.1 | −0.7 | 2.2 | 2.6 | −0.7 | 0.7 |
| Chemicals, plastics | 13.6 | 11.0 | 4.0 | 2.7 | 6.4 | 7.1 | −2.1 | −0.3 | 6.4 | 9.5 | – | 0.2 | 6.6 | 6.8 | 0.9 | 1.4 | 6.1 | 6.1 | 1.4 | 3.3 |
| Petroleum and coal products [a] | 14.0 | 15.7 | 2.9 | 3.0 | 20.8 | 23.5 | −8.5 | −4.2 | 6.1 | 0.6 | −6.1 | 1.0 | 8.0 | 5.6 | −1.6 | −3.6 | 5.6 | 5.7 | −2.4 | −0.5 |
| Rubber [b] | 4.7 | 3.0 | 4.2 | −1.6 | 8.4 | 4.9 | 3.3 | 6.3 | 2.5 | 3.7 | 0.8 | −4.5 | 1.8 | 1.3 | 2.1 | 1.1 | 2.9 | 6.9 | 0.7 | 2.0 |
| Non-metallic minerals | 4.8 | 3.6 | 3.6 | – | 5.3 | 5.3 | −1.7 | −1.9 | 5.0 | 1.2 | −0.8 | −4.0 | 4.8 | 4.1 | −0.5 | −2.4 | 2.6 | 4.2 | 0.1 | 0.4 |
| Basic metals | 9.1 | 9.1 | −0.1 | −0.6 | 6.4 | 8.0 | 2.6 | 0.7 | 3.9 | 4.8 | −2.1 | −2.7 | 2.3 | 0.4 | −1.6 | −4.0 | 2.5 | 2.5 | −2.2 | −2.8 |
| Metal products | 6.2 | 6.0 | 5.9 | 2.1 | 2.9 | 4.6 | −0.7 | −0.6 | 3.9 | 5.9 | 2.2 | −0.7 | 1.7 | 1.2 | −0.3 | −0.5 | 2.7 | 3.1 | 1.1 | 2.1 |
| Non-electrical machinery | 3.9 | 4.8 | 4.9 | 3.7 | 2.5 | 6.7 | −0.2 | 4.3 | 5.1 | 5.9 | 0.6 | 0.4 | 4.0 | 2.8 | 0.1 | −0.6 | 3.3 | 4.4 | 0.9 | 3.2 |
| Electrical equipment [c] | 6.3 | 7.3 | 4.6 | 2.5 | 4.6 | 8.7 | 1.2 | 2.6 | 3.9 | 6.3 | 1.0 | 2.9 | 5.1 | 5.5 | 3.1 | 0.7 | 4.2 | 4.5 | 4.0 | 4.6 |
| Transport equipment | 4.8 | 5.6 | −0.8 | −2.8 | 2.4 | 4.4 | −2.1 | −1.8 | 3.4 | 7.6 | −1.1 | −0.3 | 0.8 | 0.7 | −2.0 | −2.6 | 3.6 | 1.4 | 2.5 | 3.3 |
| Manufacturing n.e.s. [d] | 14.7 | 17.6 | 6.4 | 7.6 | 7.2 | 5.8 | −1.6 | −4.4 | 9.3 | 4.5 | 6.5 | 1.6 | 2.3 | 1.4 | 0.4 | 0.2 | 4.1 | 4.7 | 1.2 | 2.2 |

*Source:* National and international statistics and secretariat estimates.

[a] The Netherlands: including crude oil and national gas.

[b] USA: including miscellaneous plastic products.

[c] France: including non-electrical household equipment.

[d] The Netherlands: including professional equipment and instruments.

TABLE 1.1.37

**Compound growth rates of real gross domestic fixed capital formation in total economy and manufacturing industry**
(*Per cent, per annum*)

| | *Total economy* | | *Total manufacturing* | |
|---|---|---|---|---|
| | *1960–1973* | *1973–1981* | *1960–1973* | *1973–1980* |
| Austria | 6.4 | 1.3 | 4.3[a] | —[a] |
| Belgium | 5.1 | 0.9 | 5.2 | −2.0 |
| Denmark | 7.0 | −5.0 | .. | .. |
| Finland | 4.8 | −0.6 | 3.9 | 2.8 |
| France | 7.6 | 0.4 | 6.8[b] | 1.7[b] |
| Germany, Federal Republic of | 4.4 | 0.9 | 3.4 | 1.2 |
| Ireland | 10.0 | 4.0 | .. | .. |
| Italy | 4.3 | 0.9 | 4.1[a] | −1.1[a] |
| Netherlands | 5.7 | −1.0 | 5.9[c] | 1.7[c] |
| Norway | 5.8 | 3.3 | 3.7 | 5.0 |
| Sweden | 4.5 | −0.7 | 4.0 | −1.6 |
| Switzerland | 5.6 | −0.7 | .. | .. |
| United Kingdom | 4.5 | −0.9 | 1.5 | 0.6 |
| Western Europe (weighted average)[d] | 5.6 | 0.3 | 4.8 | 1.2 |
| Canada | 5.7 | 2.9[e] | .. | .. |
| United States | 4.5<br>(5.4)[f] | −0.4[e]<br>(0.4)[f] | 4.4 | 4.5 |

*Sources:* National statistics; OECD, *National Accounts*, Paris; and secretariat estimates.

[a] Mining and manufacturing.

[b] Mining, manufacturing and utilities.

[c] Industry, including construction.

[d] Individual country weights correspond to the 1975 share in total west European gross domestic fixed capital formation. National data were converted into US dollars by the average exchange rate for 1975.

[e] 1973–1980.

[f] Gross *private* fixed capital formation.

with the period 1960–1973 and provides an impressive illustration of the decline of investment activity. In fact, in a number of countries there has even been an absolute fall in the level of fixed investments. For western Europe as a whole, the average annual growth rate of gross fixed capital formation in the total economy is estimated to have fallen from 5.6 per cent for 1960–1973 to a level which is just above stagnation, namely 0.3 per cent. For total manufacturing industry the corresponding decline is from 4.8 per cent before 1973 to 1.2 per cent after.[120]

A similar development for the total economy has occurred in the United States, where the average growth rate of investment dropped from 4.5 per cent to −0.4 per cent. However, in contrast to the general development in western Europe, there was no decline in the pace of fixed capital formation in manufacturing industry.

A major reason for this decline in investment can be found in the lower profits and falling rates of return caused by low rates of growth of demand and by rapidly rising wage costs. Increased government regulation concerning environmental and health protection, for example, may have also played a role although its impact was probably small. In recent years there has also arisen a backlog of investment projects, mainly in the field of nuclear energy and transport, owing to lengthy and complicated legal procedures designed to protect the public interest and to take into account the views of the citizens concerned.[121]

The low rate of investment growth is a matter of great concern as the accumulation of physical capital plays an important role in promoting output growth and hence in raising employment. It is also evident that for the widely recognized need for structural adjustments in the western economies, investment in new machinery and equipment play a central role as they embody technological progress and are the vehicle by which the pattern of goods produced can be "adjusted" to changing demand. However, capital is only one of the factors determining the total productive capacity of an economy and to establish the extent to which the growth of this has also decelerated after 1973 requires a broader approach.

It was observed above that the decline in output growth was also accompanied by falling rates of employment growth. Given the rapidly rising numbers of unemployed, it is natural to ask what the level and growth of output would have been had the labour force been fully employed and all production factors utilized at their normal rate. The gap between this potential output and the actual level can be taken as a comprehensive measure of the rate of capacity utilization of *all* factors of production taken together.

To measure the size of the gap between actual and potential output is important because it is an essential ingredient in the analysis of macroeconomic policies designed to lower the rates of inflation[122] and of unemployment. Moreover, the large increase in energy prices in the 1970s has led to conjecture that part of the existing capital stock has become obsolete, with a consequent loss of productive capacity.[123] If this is true, then economies would be operating at a higher level of capacity utilization than would appear from the commonly used measures of capacity. However, the size of the effect of the rise in energy prices on potential output is still a matter of controversy. Although the rise in the relative price of energy has probably made some energy-intensive capital goods obsolete, there has also been a corresponding fall in the relative price of labour, which implies that "older-vintage", labour-intensive capital goods will have become more profitable.[124] The net effect of these factor substitutions on potential output growth is still not clear.[125]

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[120] The only exception to this common pattern is Norway, where there was an increasing rate of growth of real fixed investment after 1973. The data available up to 1979 on investments by type of good suggest that this trend seems to be strongly influenced by the development of investment in non-residential buildings.

[121] The value of these blocked investment projects regarding power plants and highway construction is estimated to have been about 25 billion Deutschmarks in the Federal Republic of Germany in 1977. See *Jahresgutachten 1977/78 des Sachverständigenrates zur Begutachtung der gesamtwirtschaftlichen Entwicklung*, Ziffer 282.

[122] For the Deutsche Bundesbank, for example, the estimated change in the potential output of the whole economy is one of the major elements in the determination of its yearly monetary target. See: "Neuberechnung des Produktionspotentials für die Bundesrepublik Deutschland", *Monatsberichte der Deutschen Bundesbank*, October 1981, pp. 32–38.

[123] See R. H. Rasche and J. A. Tatom: "The Effects of the New Energy Regime on Economic Capacity, Production and Prices", *Federal Reserve Bank of St. Louis Review*, May 1977, pp. 2–12, and by the same authors: "Energy Resources and Potential GNP", *loc. cit.*, June 1977, pp. 10–24.

To shed some light on the development of potential output and the size of the output gap after 1973 the secretariat has made estimates of potential output in manufacturing industry in nine countries for the period 1960–1979.[126] The choice of the manufacturing sector rather than the total economy was partly determined by more readily accessible data, but it can also be justified by the importance this sector has for the level of activity in the rest of the economy[127] and by the fact that manufacturing output exhibits stronger cyclical variations than output for the whole economy.

As potential output, or its counterpart, the rate of capacity utilization, is not something that can be directly observed, it is hardly surprising that there exists several concepts and methods of measurement.[128]

The estimation method applied here relates output to factor inputs by a production function. A special feature of the approach chosen is that it takes energy explicitly into account as one of the factors determining the level of output. The measure of output used therefore includes the (real) value of energy input as well as the value added by the primary factors of production, capital and labour.

It was assumed that there are constant returns to scale implying that a proportional increase in all inputs entails a proportional change in manufacturing output. Given this condition, the sum of the respective output elasticities of the three inputs (labour, capital and energy) is equal to one and there is unitary elasticity of substitution between factor inputs.[129]

In order to estimate the level and growth of potential output the actual values of output and the three inputs were used to estimate the parameters of the production function. The next step was to obtain the "full-employment" levels of labour, capital and energy for the years 1960–1979; these values were then entered into the estimated production function in order to calculate potential output.

Potential labour input for manufacturing industry was estimated following a method suggested elsewhere.[130] Briefly, the procedure is to construct first a cyclically adjusted series of employment and then to make an adjustment for the fact that part of unemployment is not due to a shortfall in demand but is "frictional" or "structural".[131]

In principle potential energy demand could be estimated using a procedure similar to that for deriving potential labour input. However, owing to a lack of proper cyclical variables and the difficulty of pinpointing a proper benchmark for them, this approach was not feasible. Instead, potential energy input, that is, energy input corresponding to the full-employment level of economic activity, was obtained indirectly by deriving the demand equation for energy from the production function and assuming

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[124] See, e.g. E. R. Berndt and D. O. Wood: "Engineering and Econometric Interpretations of Energy-Capital Complementarity", *The American Economic Review*, vol. 59, No. 3, June 1979, pp. 342–354, especially p. 351; and J. W. Gunning, M. Osterrieth and J. Walbroeck: "The price of energy and potential growth of developed countries: An attempt at quantification", *European Economic Review*, vol. 7, No. 1, January 1976, pp. 35–62, especially pp. 40–41.

[125] Recent research suggests that the increases in energy prices have had only a modest negative impact on the level and growth of potential output, see J. R. Berndt and J. C. Morrison: "Capacity Utilization Measures: Underlying Economic Theory and an Alternative Approach", *The American Economic Review*, Papers and Proceedings, vol. 71, No. 2, May 1981, pp. 51–52; and G. Perry: "Potential Output and Productivity", *Brookings Papers on Economic Activity*, No. 1, 1977, p. 43; and J. W. Gunning *et al.*, *op. cit.*. The results of this research contrast with the findings of Rasche and Tatom, who estimate that the energy price rise has had a sizeable effect on potential output in US manufacturing industry and the private business sector. See R. H. Rasche and J. A. Tatom, *op. cit.*

[126] Austria, Finland, France, the Federal Republic of Germany, Italy, Norway, Sweden, the United Kingdom and the United States. The series for Austria, France and Italy include mining activities. The series for Norway is for manufacturing, mining and construction, but excludes the extraction of crude oil and natural gas.

[127] See above, section (vi).

[128] See e.g. L. J. Christiano: "A Survey of Measures of Capacity Utilization", *IMF Staff Papers*, vol. 28, No. 1, 1981, pp. 144–198; and E. R. Berndt and C. J. Morrison: "Capacity Utilization Measures: Underlying Theory and an Alternative Approach", *The American Economic Review*, Papers and Proceedings, vol. 71, No. 2, May 1981, pp. 48–52.

[129] The corresponding Cobb-Douglas production function can be written as follows:

$Q_t = A.L_t{}^a (K_t\ k_t{}^d)^b \cdot E_t{}^c \cdot e^{gt}$ where
$Q_t$ = output, i.e. the sum of real value added and final energy consumption in manufacturing industry.
$L$ = labour input (in terms of hours worked).
$E$ = energy input (in terms of oil equivalents).
$k$ = capital stock utilization rate, defined as $\frac{100-u}{100}$ where $U$ is the rate of unemployment in total economy.
$g$ = trend growth rate of output due to technical change.

The parameters *a*, *b* and *c* are, respectively, the output elasticities of labour, capital and energy. These elasticities were calculated as the average shares of the three inputs in total output over several years. The other two parameters, *d* and *g*, were estimated statistically.

[130] J. R. Artus: "Measures of Potential Output in Manufacturing for Eight Industrial Countries, 1955–1977", *IMF Staff Papers*, vol. XXIV, March 1977, pp. 3 and 14.

[131] More explicitly, this was done by estimating the following equation which allows a cyclically adjusted series of employment to be obtained:

$$\log L = a_0 + a_1t + a_2t^2 + a_3t^3 + a_4U$$

where $L$ = employment in manufacturing (in man-hours)
$U$ = rate of unemployment in total economy
$t$ = time variable.

Given the parameters of the above equation potential labour input ($L^*$) at cyclical peaks was calculated by replacing the actual unemployment rate by a minimum or "full-employment" rate of unemployment. The values for potential labour input between cyclical peaks were obtained by fitting log-linear time trends between the peak values of $L^*$. For Norway a somewhat different procedure had to be chosen because the variations in the rate of unemployment were too small to allow a reliable cyclical adjustment of the employment series. For this country, the full-employment labour force was obtained by fitting log-linear trends through the cyclical peaks in the annual data for employment.

that at potential output the relative price of energy is equal to its actual price.[132]

Table 1.1.38 compares the estimated average annual growth rates of potential output and potential labour productivity, respectively, for the two periods 1960–1973 and 1973–1979. The general feature is a decline in the growth rates of both variables in the latter period.[133] It appears that for the explanation of this decline in potential output growth the slowdown in the rate of growth of the full-employment labour force (in terms of hours worked) played a relatively important role only in Finland, the Federal Republic of Germany and Italy.

TABLE 1.1.38

**Compound growth rates of potential output (Q), potential labour input (L) and potential labour productivity (P) in manufacturing industry**

(*Per cent, per annum*)

| *Country* | | *1960–1973* | *1973–1979* |
|---|---|---|---|
| Austria[a] | Q | 5.5 | 4.9 |
| | L | −1.2 | −0.8 |
| | P | 6.8 | 5.7 |
| Finland | Q | 6.9 | 4.3 |
| | L | 1.2 | 0.6 |
| | P | 5.6 | 3.7 |
| France[a] | Q | 7.7 | 6.4 |
| | L | −0.2 | −0.2 |
| | P | 7.9 | 6.6 |
| Germany, Fed. Rep. of | Q | 5.5 | 2.9 |
| | L | −1.3 | −2.3 |
| | P | 6.9 | 5.3 |
| Italy[a] | Q | 6.5 | 3.7 |
| | L | −0.5 | −1.3 |
| | P | 7.0 | 5.1 |
| Norway[b] | Q | 4.0[c] | 3.9 |
| | L | 1.0 | 0.1 |
| | P | 3.0 | 3.8 |
| Sweden | Q | 4.5[d] | 2.9 |
| | L | −1.7 | −1.7 |
| | P | 6.3 | 4.7 |
| United Kingdom | Q | 3.7 | 0.2 |
| | L | −1.7 | −1.3 |
| | P | 5.5 | 1.5 |
| United States | Q | 3.8 | 3.4 |
| | L | 1.0 | 1.1 |
| | P | 2.8 | 2.3 |

[a] Mining and manufacturing.

[b] Mining, manufacturing and construction, but excluding extraction of crude oil and natural gas.

[c] 1962–1973.

[d] 1963–1973.

The effect of the rise in the relative price of energy is estimated to have pulled down the potential output growth after 1973, on average by 0.3 to 0.5 percentage points. The negative impact was somewhat higher in Finland and Sweden (about 1 percentage point per annum). Declining rates of capital formation (with the exception of Norway and the United States) is the other general factor behind the slowdown of potential output growth. This latter factor was particularly important in Finland, France, the Federal Republic of Germany and Italy. In the United Kingdom most of the slowdown can be attributed to a sizeable fall in the trend growth rate of technical progress.

In assessing these estimates of potential output and the relative importance of the factors contributing to the deceleration of potential output growth it should be borne in mind that the results reported here rest on the basic assumptions underlying the production function, notably with regard to the assumption regarding capital-energy substitutability. However, in general the results obtained appear to be quite reasonable, though the estimation method and the quality of the data used can certainly be improved.

Chart 1.1.8 depicts the estimated annual values for potential output together with the actual output levels attained by manufacturing industry for the period 1960–1979. They also show rough extrapolations of the estimated series to 1980 and 1981. It can be seen that in all countries manufacturing industry was operating at or near to full-employment capacity in 1973. The world recession in 1974–1975 then led to a sizeable drop in actual output. As potential output did not fall correspondingly, the general consequence was the creation of a relatively large "output gap". By 1979 this gap had narrowed only in the Federal Republic of Germany, Italy and the United States; in France, Norway and Sweden it had increased. The extrapolations indicate that in the current recession (1980–1981) capacity utilization rates have fallen further in all countries. Against this background the low level of investment activity after 1973 would appear to be mainly a reaction of industry to unemployment and idle capacity. Certainly, lower investment growth cuts both ways: on the one hand it has a negative effect on the total capacity available to produce goods and services; on the other hand, it simultaneously affects the level of actual output and, hence, the rate of capacity utilization.

### (viii) Prospects and policies

*The short-term outlook*

According to official national forecasts, the prospect for western Europe in 1982 is for only a gradual and hesitant recovery of output: for 13 countries the aggregate rise in GDP is likely to be just under 1.5 per cent which is less than the growth rate in 1980, the first year of the current recession (see table 1.1.4 above). The main support to growth is expected to come from the upturn in the stock cycle which should account for about half of the increase in output in 1982. Unlike the recovery year (1976) of the previous recession, investment is forecast to fall in 1982 (for the second year running):

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[132] See R. Rasche and J. Tatom: "Energy Resources and Potential GNP", *Federal Reserve Bank of St. Louis Review*, June 1977, pp. 14 and 17. Assuming profit maximization, the demand function for energy implied by the Cobb-Douglas production function is

$$E = c.\ Q.(PE/PQ)^{-1},$$

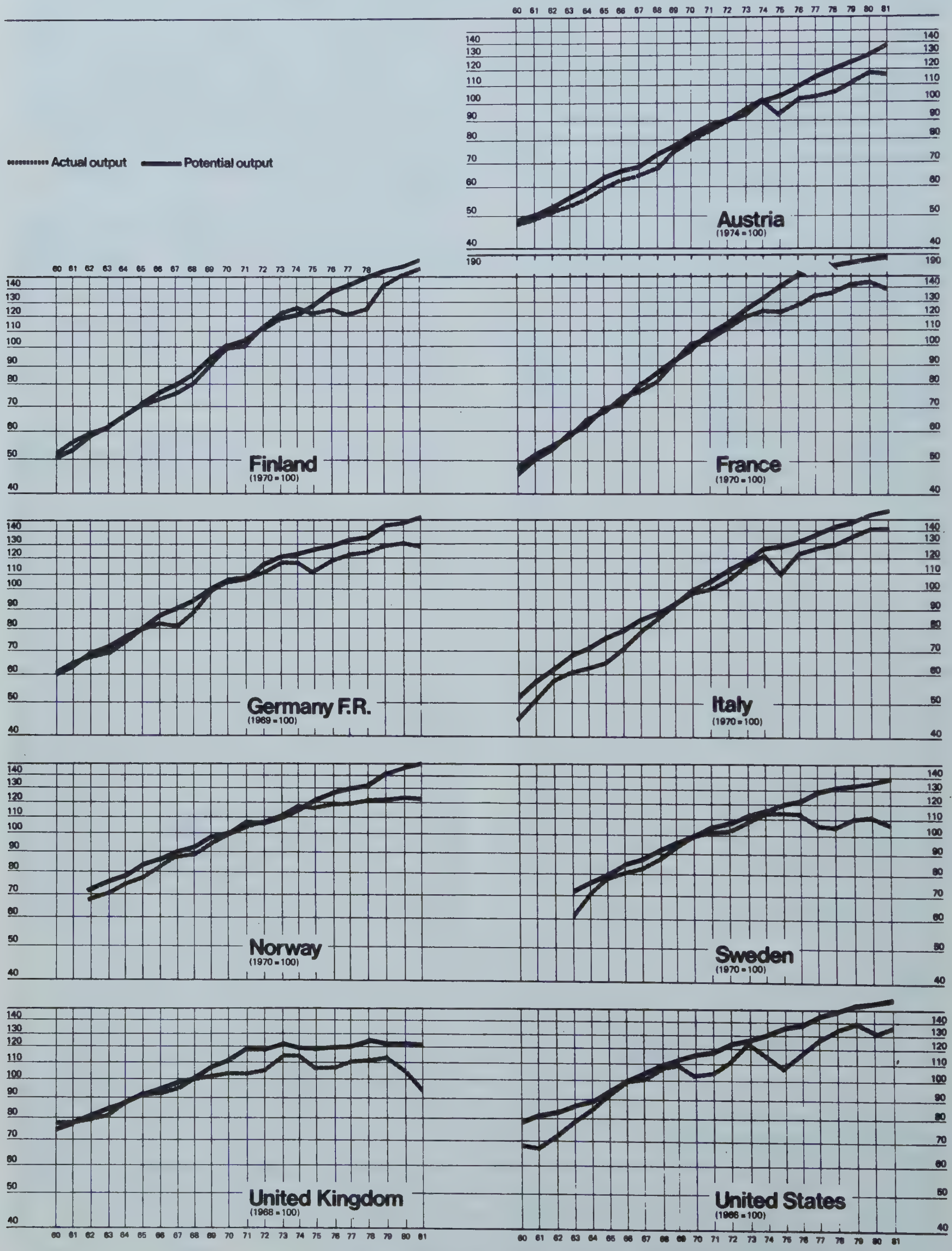
where $PE$ and $PQ$ are the prices of energy and output respectively. The energy price index was constructed as a Divisia price index of different forms of energy based on information from OECD (*Energy balances* and unpublished price series) and different national sources. The output price index is the implicit GDP deflator.

[133] The only exception is Norway with a virtually unchanged rate of potential output growth. There was a fall in the growth of potential labour input and a corresponding acceleration in the growth of potential labour productivity.

CHART 1.1.8

**Actual and potential output in manufacturing industry in western Europe and the United States, 1960–1981**[a]

*(Index numbers, semi-log scale)*



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[a] The estimates for 1960 to 1979 are based on the production function described in the text; those for 1980 and 1981 are based on extrapolations from this function.

fixed investment in residential construction is particularly weak, the usual impact of a recession on this sector having being amplified by high real rates of interest and, in many countries, by public expenditure cuts. But investment in plant and equipment is also weak with absolute declines forecast in the Federal Republic of Germany, the Netherlands, Norway, Sweden and Switzerland. The only countries where total gross domestic capital formation is expected to rise in 1982 are Denmark, France and the United Kingdom due in all three to non-residential investment—but in these countries investment had already fallen sharply in 1981 and, for Denmark and the United Kingdom, also in 1980. Consumers' expenditure should recover slightly in 1982, mainly as a result of lower inflation, but the contribution to growth from government expenditure and the foreign balance will be smaller than in 1981. Exports of goods and services are expected to rise in real terms by just over 4 per cent but there will also be a sharp turnround in the volume growth of imports, so that the net effect on GDP growth is quite small.

At the rates of output growth forecast for 1982, unemployment will continue to rise: for the 13 west European countries considered here the weighted average annual rate of unemployment is likely to rise from just under 7 per cent in 1981 to just over 8 per cent in 1982. But in spite of the continued slack in the west European economy the rate of inflation still shows only a gentle rate of decline, from an average of about 11 per cent in 1981 to some 9.5 per cent in 1982.

In the United States the official forecast is for a 3 per cent rise in GNP between the fourth quarters of 1981 and 1982. However, much uncertainty arises from doubts as to whether the latest budget proposals will be approved by Congress and as to the outcome of the conflict between an expansionary fiscal policy and a tight monetary policy. This now appears likely to make real interest rates high for some time to come and in turn this could lead to a sharper fall of output in the first half of 1982, and to a slower recovery in the second half, than is officially expected. Non-official forecasts in the United States for the year-on-year change in real GNP in 1982 range from −1 to +2 per cent, while the OECD's December forecast is for a decline of half of 1 per cent. At the beginning of 1982 there are signs that the fall in output may well be turning out to be sharper than expected: in January industrial production fell 3 per cent, taking the index below the lowest point of the 1980 recession. Unemployment is expected to rise from 7.5 per cent in 1981 to nearly 9 per cent in 1982, while the inflation rate (consumer prices) should drop from 10.5 per cent to some 7–7.5 per cent.

It is the slow progress in reducing inflation that ultimately explains the expectation of a slow and hesitant pace of recovery from the present recession. The majority of governments still regard the reduction of inflation, to levels considerably below those existing at present, as their overriding objective. Although the rising levels of unemployment (particularly among men in the central age groups) are increasing the pressures for giving greater priority to the reduction of unemployment, the basic stance of policy has so far remained unchanged in most west European countries. In the Federal Republic of Germany, the Federal Government has proposed a DM 12.5 billion programme to reduce unemployment which would probably give a short-run fiscal stimulus to the economy (higher value added taxes to finance the higher expenditure would only be introduced in a year's time). The key part of the programme, which will depend on the higher value added taxes being approved by the Länder governments, is a special investment grant (worth 10 per cent of the cost of investment in new machinery and buildings in 1982), but only that part of investment above the average of investment spending in the last three years is eligible for the grant. However, doubts have been expressed as to whether, in the present economic climate, such an incentive will be sufficient to stimulate investment by the amount desired by the government.

Elsewhere in western Europe there has also been greater emphasis on job-creation and training schemes, particularly for youths, but monetary policy remains tight and the continuing concern over the size of general government deficits in relation to GDP could in fact lead to some further tightening of fiscal policy in 1982.

The one country where there has been a clear move towards fiscal expansion is France, where the new administration has embarked on a policy of stimulating effective demand in order to reduce unemployment. The programme, which got under way in June, includes increases in minimum wages and improved family and other allowances, the expansion of public sector employment, and support to business investment and residential construction. In 1982 this expansionary policy is to continue but with still greater emphasis on stimulating investment. The risks of such a policy are that domestic capacity, affected (as elsewhere in western Europe) by several years of low growth, will be unable to increase supply in line with demand with the consequence that the external deficit and inflation will be greater than anticipated. In order to reduce these risks the government aims to prevent the rise in wages and salaries from rising faster than the current inflation rate and last October introduced a number of selective price freezes (mainly on services, key foodstuffs, and on the absolute value of importers' margins) in order to assist the process of deceleration.

One of the major current concerns of west European policy makers is with the international repercussions of high and volatile interest rates in the United States. Last year these led to a sharp appreciation of the dollar which in turn led to a rise in European interest rates. Governments considered that the short-run risk of a stimulus to the wage-price spiral from the exchange rate outweighed, in present conditions, the medium-term benefit of increased international competitiveness. European policies are not of course determined only by conditions in the United States: interest rates were already high in Europe as a result of high inflation rates and large government deficits, but the rise in United States' interest rates has undoubtedly added to the pressure on European rates and reduced European governments' room for manœuvre. If the changes in current account balances (strengthening in the Federal

Republic of Germany and Japan, weakening in the United States) occur as expected, then a possible weakening of the dollar in the second half of 1982 might reduce the impact of the United States–European interest rate differential on capital flows and hence on European interest rates. But at present interest rates in the United States are likely to remain high and these will help to maintain high real rates in western Europe.

*Stagflation and present economic policies*

The economies of the western industrialized countries have now been in recession for two years. An important consequence of the present weakness in productive activity is that unemployment has risen to levels higher than at any time since the second world war, including the 1974–1975 recession. Another feature of the latest slowdown is that, after the flare up of inflation in 1979–1980, following and accompanying the upsurge in world commodity prices, inflation has decelerated only a few percentage points to around 10 per cent where, for the time being, it seems to have bottomed out. A somewhat better understanding of present policy issues might be obtained by looking at the present recession, and the problems it raises for economic policy, against the background of developments throughout the 1970s.

The whole period of 1972–1981 is marked by very high inflation rates accompanied by increased margins of unused productive capacity. There were two periods, in 1973–1974 and in 1979–1980, immediately following the commodity price explosions, when inflation actually accelerated while unemployment rates were also rising. Chart 1.1.9 depicts annual inflation rates and unemployment rates for thirteen west European countries since 1971 and forecasts for 1982. It clearly shows that the first inflationary cycle of 1972–1978 is now being followed by another, which started in 1979 from a considerably higher level of unemployment and inflation than the previous one in 1972. (As a comparison a similar description of the United States is also given in chart 1.1.9.) The chart makes quite explicit two different aspects of the stagflation phenomenon which, from a policy point of view, should conceptually be kept apart: *short run stagflation* (in 1974 and again in 1979–1980) which is characterized by simultaneous year-to-year increases in both inflation and unemployment, and *long-run stagflation*, a development in which higher inflation is accompanied by higher unemployment in the longer term perspective of 5 to 10 years.

As regards *short-run stagflation* the previous analysis in section 1(v) suggests that the sharp increases in import prices, which confronted the industrialized countries in 1973–1974 and again in 1979–1980, were sufficiently important to boost inflation and, with non-accommodating monetary policy, to lower production, thereby causing the paradoxical development of accelerating inflation and rising unemployment at the same time. Domestic factors—such as wage indexing and inflationary expectations—of course, played a role in the process, but the international impulse remained, at the initial stage, the dominant source of inflation. However, once the international stimulus to rising prices became weaker the domestic factors came to the fore again. It can be seen from the earlier analysis (see section 1(v)) that excess demand in the domestic goods and, in particular, the labour markets, has an important influence on the inflationary process. This relationship between aggregate excess demand and inflation is visible in the downward sloping parts of chart 1.1.9 where rising unemployment is accompanied by a decline in the rate of inflation (yielding a conventional type of negative Phillips curve). This interpretation of the nature of stagflation gives support to the view that monetary and fiscal policies which aim at reducing demand pressure in domestic markets will lead to lower inflation, although the effect may be slow and the costs high in terms of lost output and unemployment, if the target is a very low rate of inflation. If, furthermore, national policies of curbing inflation are more or less synchronized, it is very likely that commodity prices, which are sensitive to the balance of demand and supply in the world markets, would also fall and thus ease the international inflationary pressure on individual countries.

*Long-run stagflation* is the tendency of the inflationary cycle (or loop in the case of the United States) to shift to higher levels of inflation and unemployment, as shown in chart 1.1.9. There has been an awareness for several years now that a positive association between inflation and unemployment had been emerging since the latter half of the 1960s in a number of industrialized countries (chart 1.1.10). This new development is not well understood but some general ideas about the possible causes have been put forward.[134] These ideas, which have had a considerable influence on policy making in recent years, can be summarized as follows: when the economy moves into a situation in which there are long periods of high and highly variable rates of inflation, increased uncertainty develops in the resource allocation process. This renders the economic system less efficient because inflation makes the price mechanism an unreliable transmitter of information about relative prices. General uncertainty caused by inflation and, in particular, the volatility of the inflationary process will lead to attempts to offset these negative effects by various types of institutional arrangements—such as indexing and price controls—which will create new rigidities in the functioning of the economic system. These arrangements are likely to reduce economic efficiency still further and will probably raise that rate of unemployment at which the price level or the rate of inflation is stable.

This possibility, that inflation induces a growing malfunctioning of the market economy system, including misallocation of labour, makes it hard for economic policy to cope with the inflation-unemployment problem, because it clearly suggests that in the longer term the causal relationship might run from inflation to unemployment and not, as has been widely assumed in the past, from unemployment to inflation. The immediate policy

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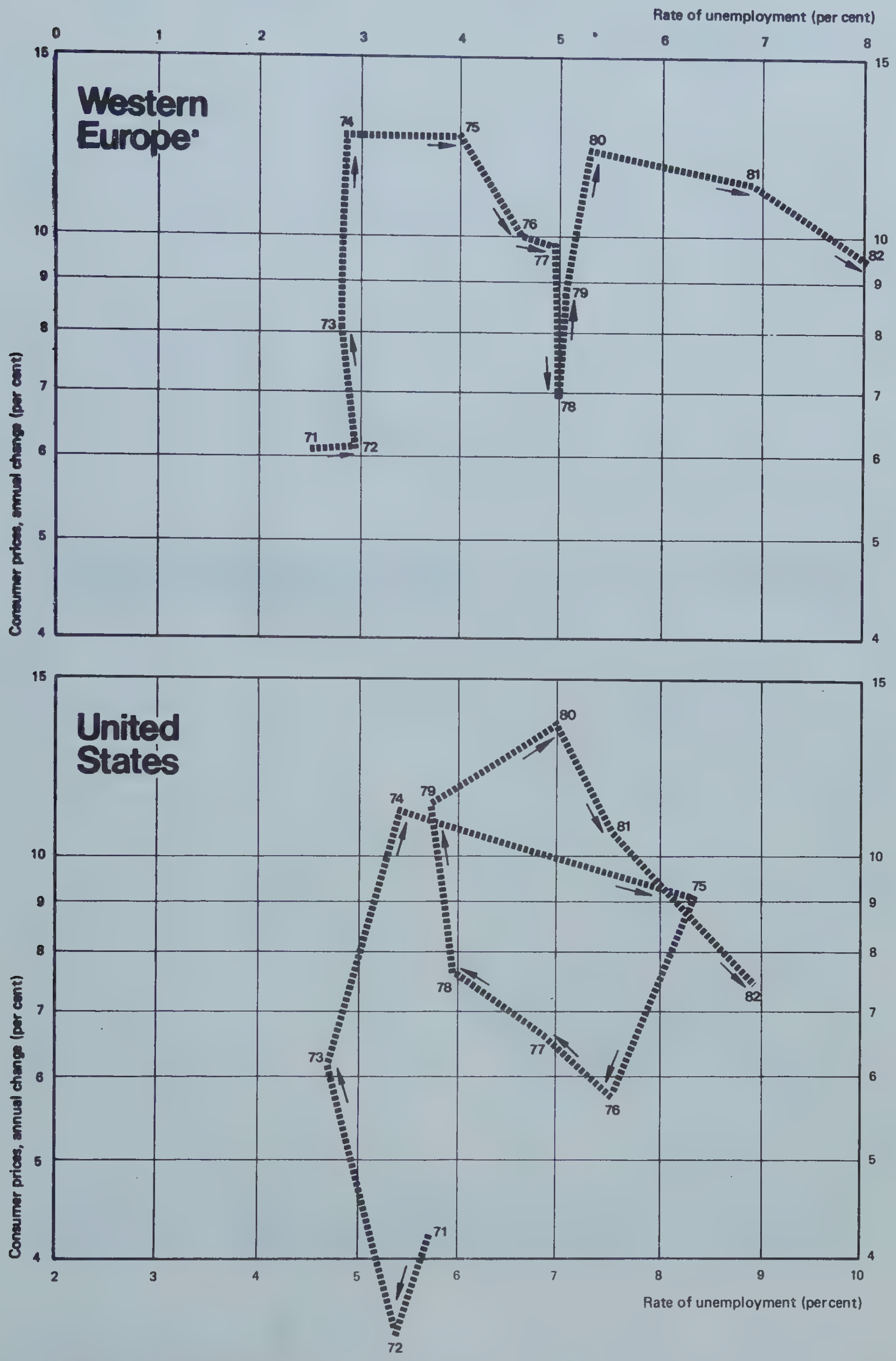
[134] See Milton Friedman: Nobel lecture: "Inflation and Unemployment", *Journal of Political Economy*, vol. 85, No. 3, June 1977.

CHART 1.1.9

**Inflation and unemployment in western Europe and the United States**

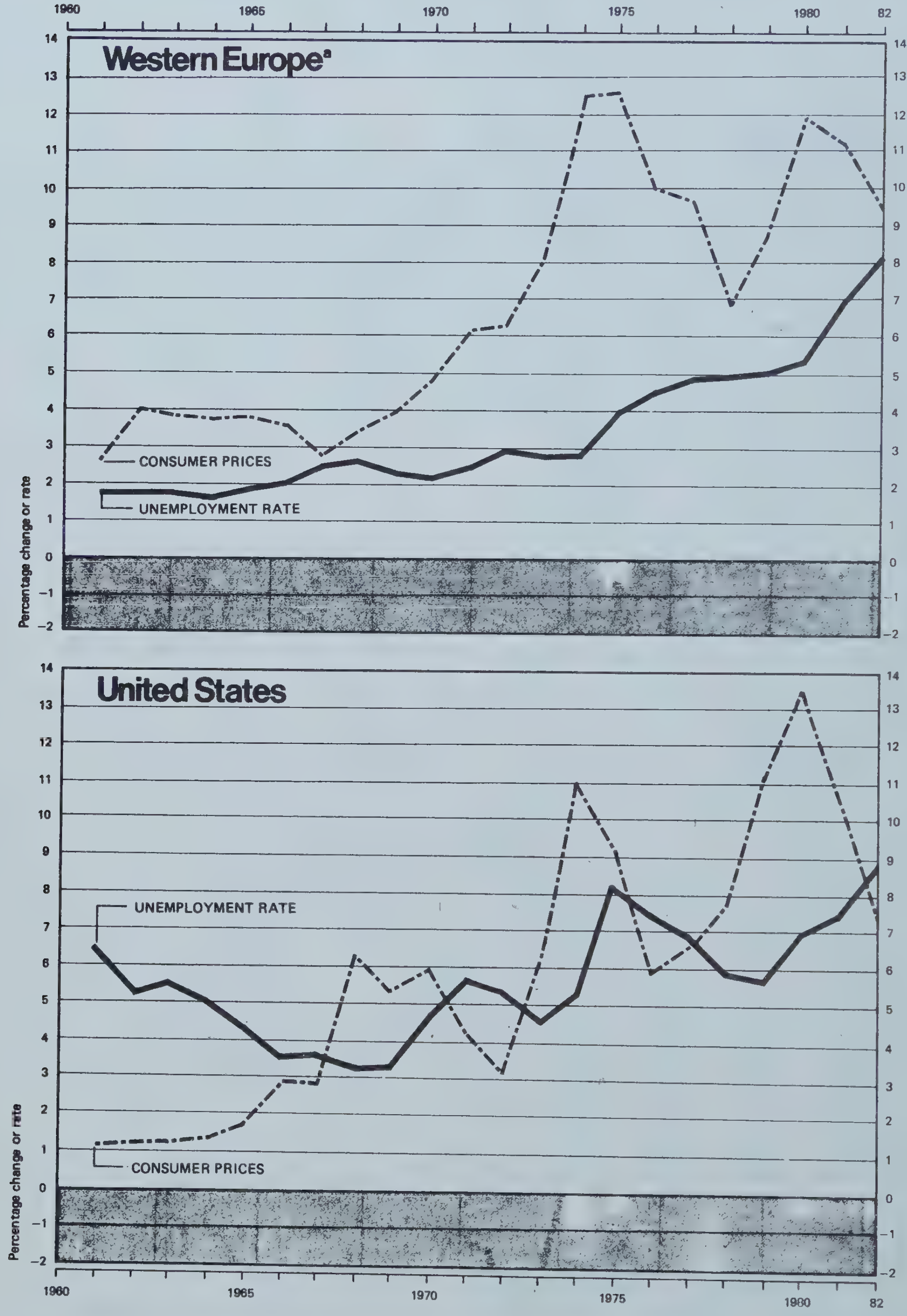


*Sources:* As for chart 1.1.10.

[a] Weighted average (see footnote to chart 1.1.10).

CHART 1.1.10

**Stagflation in western Europe and the United States: annual changes in prices and unemployment 1961–1982**



*Sources:* National statistics and OECD, *Main Economic Indicators*, Paris; and its supplement *Historical Statistics 1960–1979;* EUROSTAT, *Unemployment Monthly Bulletin*, Dec. 1981. Estimates for 1982 are based on national forecasts for western Europe, and for the United States are from OECD *Economic Outlook*, Paris, December 1981.

[a] Weighted averages for 13 west European countries. Annual changes in the volume of GDP and of consumer prices are weighted respectively, by the dollar values of 1975 GDP and private consumption. Unemployment rates are weighted by 1975 employment levels.

implication, if this view is accepted, is that policy measures should be targeted directly at inflation to bring it down and to diminish its volatility. Indirectly, through the positive association between inflation and unemployment, conditions would then be created for progress towards a fuller use of resources, i.e. towards full employment without inflation.

After the second oil shock the reduction of inflation became the primary policy objective in most industrialized countries. The policy stance has remained restrictive, while at the same time high unemployment and low growth have prevailed. The following authoritative statements indicate why anti-inflation policy has been given such prominence: in the Federal Republic of Germany, "the main target of the Federal Government is, therefore, to fight against the acceleration of inflation ... . The experience of past years shows that this would also strengthen continuous economic growth and improve employment";[135] in the United Kingdom "the conditions for sustained growth in output and employment can only be achieved if there is a sustained reduction in inflation. This, in turn, requires a progressive reduction in the rate of increase in the money supply and the pursuit of fiscal policies consistent with that aim ...";[136] and in the United States, "one of the Administration's long-run objectives is the elimination of inflation ... In summary, high and varying inflation imposes costs on society by reducing future standards of living. These costs, though presumed to be large and pervasive, are not easily calculated. There is temporary output loss in the initial stage of transition to price stability. Such loss, however, must be weighed against the future increases in output that would be achieved by ending inflation ... . Significant progress towards the interim goals for unemployment and inflation is also anticipated within this period (up to 1987). The economic expansion will reduce unemployment rates for significant sub-groups of the labour force as well, including youth, women, minorities, handicapped persons, veterans, and middle-aged and older persons."[137]

Behind these statements seems to be a strong belief in the existence of a positive and sequential relationship from inflation to unemployment implying that the antecedent elimination of inflation will pave the way to full employment.

The present policy dilemma can be schematized with the help of a simple diagram. In chart 1.1.11 the positively sloped line indicates the long-run relationship between inflation and unemployment. The direction of this line can be deduced from the actual developments depicted in chart 1.1.9. The present situation, as well as the target zone for inflation and unemployment, are marked on the line. Two things should be emphasized about the nature of the line: firstly, the actual economic development since 1972 has not moved along the line, but has fluctuated around it; secondly, it must be presumed that, with present economic policies and behaviour patterns of the private sector, it is hardly likely that the industrial market economies can simply move back along the line to acceptable levels of inflation and unemployment by reducing simultaneously both inflation and unemployment. The first point should be evident from the previous discussion, but the second point demands some additional analysis.

In the last few years the main burden of anti-inflation policy has been borne in most industrialized countries by monetary policy. The well-known and well-propagated doctrine behind this emphasis on monetary policy can be summarized as follows: inflation is basically a monetary phenomenon and, therefore, monetary policy should be the main means of achieving control over inflation; the specific prescription for monetary policy is that the rate of increase in the money supply should be reduced to a level which would accommodate only real growth and, furthermore, that once the objective of a stable price level is reached, the money supply should be regulated in such a way that it expands at a stable rate.

The monetary targets set for 1981 generally continued to reflect a policy of gradually reducing the growth of money in line with the overall aim of combating inflation. Further slight reductions in the targets are set or forecast for 1982. If policies adhere strictly to the monetarist doctrine, there is still some way to go before the aim of price stability is reached; the targets still allow for both inflation and real growth.

For a great many countries a general commitment to lower government deficits has been built into their medium-term budgetary strategies, thus giving a restrictive stance to fiscal policy. This objective has been difficult to achieve in the short run because the deficits have responded to increased unemployment through the operation of the "built-in stabilizers", thus disguising the actual move towards discretionary fiscal restraint. This discretionary fiscal policy of cutting public expenditure and raising taxation is likely to continue in most countries in 1982: the notable exception is France, where the budgetary policy of the new government is expansionary.[138] In terms of discretionary restrictive measures fiscal policy is supporting the anti-inflationary stance of monetary policy.

*Restrictive policy*—whether monetary or fiscal—is a tool to reduce aggregate demand relative to output. Besides curbing inflation, the fundamental question is how quickly and at what social cost (loss of output due to under utilization of capacity, social problems caused by unemployment etc.), the transition from inflation to price stability is to be achieved.

The reduction in aggregate demand caused by monetary and/or fiscal policy creates slack in the economy which eventually slows down the rate of price and wage inflation. But the magnitude of the effect on prices and wages is highly uncertain because there are some markets ("fixed-price"

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[135] *Jahreswirtschaftsbericht 1980 der Bundesregierung*, Deutscher Bundestag 8. Wahlperiode, Drucksache 8/3628, Ziffer 3.

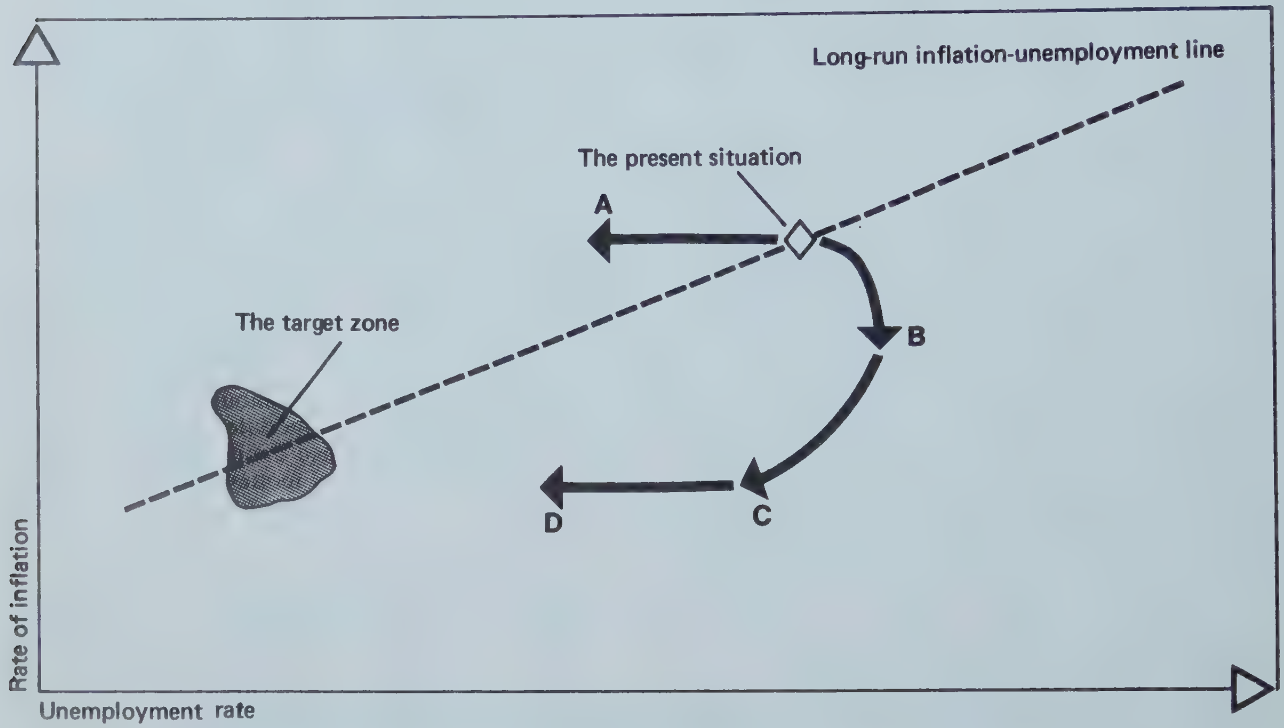
[136] "The 1981 Budget", *Economic Progress Report* published by the Treasury, No. 131, March 1981.

[137] *Economic Report of the President*, transmitted to the United States Congress, February 1982, pp. 75, 61 and 214.

[138] See: OECD *Economic Outlook*, Paris, December 1981, table 8, p. 22.

CHART 1.1.11

**Alternative paths to lower unemployment**



markets) where prices do not vary whenever there is an excess supply or excess demand, and there are others ("flexprice" markets) where changes in prices are immediately induced by changes in the conditions of demand and supply. It depends then on the degree of "fixity" relative to "flexibility" in the process of price formation as to how responsive the rate of inflation is to slack in the economy. There is very little empirical evidence on how changes in nominal GNP are divided between prices and quantities. The existing studies, however, suggest that this division varies over time and across countries. For example, there is evidence which indicates that the price response has been greater in Europe, both during the Great Depression and more recently, than in the United States.[139] It is very difficult, in the absence of sufficient empirical research, to assert anything very definite about the "fixity" and downward stickiness of prices and wages during the present recession. One feature, however, stands out very clearly in the development since the beginning of the 1970s and that is the greatly increased downward stickiness of oil prices due to the stronger market position of OPEC while they remain highly flexible upwards when there is an upturn in economic activity in the industrialized countries. The oil price changes have become an important international inflationary factor, both when inflation is flaring up and also when policy attempts are made to curb it. As regards individual countries it is likely that if the recession continues for some time the downward stickiness of prices and wages will eventually soften up and will then help to speed up the process towards the desired degree of price stability.

The success of anti-inflation policy in a national context depends in a critical way on how fast *inflationary expectations* adjust downwards. The sensitivity of expectations to actual rates of inflation may change over time and anti-inflationary policies pursued by the government may be more or less convincing to the general public. However, one can fairly safely presume, on the basis of available empirical evidence, that in conditions where the rate of inflation is on the decline inflationary expectations tend to lag behind the actual inflation rate and to show some stickiness in adjusting to the reduced rate of inflation. But when the inflation rate stops declining, or when the decline becomes very moderate, inflationary expectations are quite likely to catch up with the actual rate of inflation. Something like this may have happened recently in the industrialized market economy countries. The average rate of inflation tended to stabilize during 1981 and showed only a very weak tendency to moderate further. Inflationary expectations seem to have followed a similar course, according to the consumer surveys carried out in the countries of the Economic Community.[140] These survey results show that expec-

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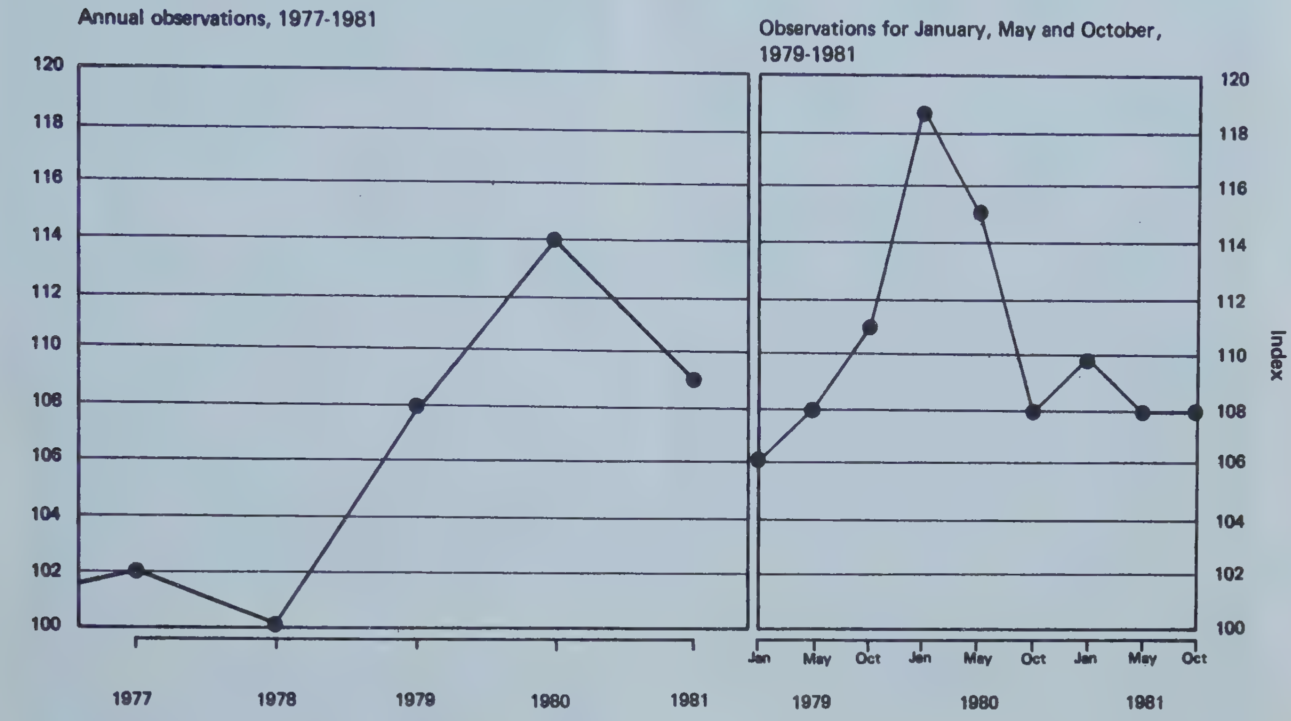
[139] See Robert J. Gordon, "Output Fluctuations and Gradual Price Adjustment", *Journal of Economic Literature*, June 1981, vol. XIX, No. 2, p. 495.

[140] See, Commission of the European Communities, *European Economy*, Supplement C, December 1981.

CHART 1.1.12

**Index of consumer expectations of price increases over the next twelve months**
*(1975=100)*



*Source:* Commission of the European Communities, Supplement C of the *European Economy*, December 1981 and prior issues. The index is a weighted average of consumer expectations in Belgium, Denmark, Federal Republic of Germany, France, Ireland, Italy, the Netherlands and United Kingdom.

tations, as regards future price trends, have not changed much recently. Chart 1.1.12 shows the development of these expectations during the past few years.

In the present circumstances, where the rate of unemployment is still rising from already exceptionally high levels, the recent economic policy discussions in several countries (United Kingdom and the Federal Republic of Germany, for example) suggest that there might be a reappraisal on the way as regards the main policy objectives. The emphasis may be shifting from, first and foremost, fighting inflation to attempting to curb the swelling numbers of the unemployed. If, in the near future, there were moves to make policy significantly expansive, the implication might be that the present rate of inflation, which has stabilized at a higher rate than during previous troughs in the 1960s and the 1970s, might have to be accepted as a sort of inflationary equilibrium if, as a consequence, there was an upturn in economic activity and employment.

A recent study on the causes of long-run stagflation in the United States strongly suggests that in the actual inflationary process there is an important element which has been rising since the late 1960s.[141] In this study factors influencing inflation are classified into three components: shock inflation, such as increases in oil prices, demand inflation, the pull of excess demand on prices in goods and labour markets, and core inflation. *Core inflation* is defined as the trend rate of increase of the price of capital and labour. It is assumed to originate in the long-term expectations of inflation of households and firms, in the contractual arrangements which sustain the wage-price spiral, and in the tax system. The nature of core inflation is such that it can only be modified gradually. The core inflation rate in the United States is estimated to have been about 4 per cent in the early 1970s; after the first oil shock it climbed to 7 per cent and has been driven to around 10 per cent by the latest oil shock. The actual inflation rate at times may have been below the core rate, as in 1976–1978, and thus hide the fact that core inflation is slowly moving upwards. Using the conceptual framework of this American study to interpret the causes behind the levelling out of the rate of inflation in western Europe in 1981, it might be argued that the core inflation rate may have risen to double-digit levels although both shock inflation and demand inflation have moderated considerably.

If expansionary policies were now generally adopted, actual development would take the direction towards lower unemployment as suggested by the arrow A in chart 1.1.11. There may be circumstances, however, which could make this type of expansion with non-accelerating inflation difficult to achieve, so that a renewed acceleration of inflation might take place long before full employment is reached:

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[141] Otto Eckstein, *Core Inflation*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1981.

The recession hits various sectors of the economy unevenly and there are income groups who fall behind the general trend of real earnings. The upturn in economic activity might give special impetus and strength to these groups to attempt to catch up with the earnings of the stronger groups or to restore the pre-recession earnings structure. This catching-up may spread and by its cumulative nature build up new inflationary pressures in the economy. A similar tendency may also exist among firms which, after the recession, may try to recover some of their lost profits by raising prices. According to the business survey data prepared by the Commission of the European Communities, the percentage of respondents in manufacturing industry expecting their selling prices to rise had increased from 29 per cent in the third quarter of 1980 to 46 per cent in the last quarter of 1981. This increase had taken place simultaneously with improved business expectations as measured by the "business climate indicator" of the same survey.[142] These survey results point to potential price increases waiting only for the economic situation to improve.

If the cyclical upturn in the output of the industrial market economies is sharp and strong, considerable demand pressures may reappear in the international commodity markets and, in particular, in the oil market, raise prices and thus bring about a renewed upsurge of inflation.

The expansion in output at an unchanged rate of inflation would require a faster growth in the money supply. This may in itself be an inflationary factor because the public in many countries has been taught to regard increases in the money supply growth rate as signals of worsening inflation. Consequently, a necessary upward adjustment in the growth of money supply may raise the inflationary expectations of the public with cumulative effects on the actual inflation rate.

The monetary control technique in the United States, introduced in 1979, of attempting to affect directly the growth of money supply instead of regarding interest rates as the operational target, has led to two interrelated developments, which have had a strong impact on the international economy: sharply fluctuating and high short-term interest rates in the United States and a great variability of the exchange rates between the US dollar and European currencies. In 1981 the interest rate differentials between the United States and Europe became sizeable and a significant appreciation of the dollar occurred. A similar development could happen in 1982 and provide an additional impetus to inflation in Europe, because interest rates in the United States are likely to remain high due to the combined effect of stringent monetary policy and a large Federal budget deficit. The monetary authorities in Europe, however, may be wanting to aim at lower interest rates to counteract further recessive tendencies in their economies. High interest rates in the United States and a policy of non-intervention in the currency markets has been a way of shifting some of the inflationary pressure from the United States to Europe. The prevailing uncertainty as regards near-term prospects in general and inflation in particular is fuelled by the system of uncontrolled changes in exchange rates which seem likely to persist, at least for the time being. In the very open economies of Europe developments in the currency markets can easily provide a source of new inflation.

Leaving aside those factors, some of them enumerated above, which may be potential sources of renewed inflation at the early stages of a recovery, there is nevertheless considerable scope for expansion, given the high levels of unused capacity and excess supply of labour, without immediately provoking a higher rate of inflation. It should also be taken into account that the rate of inflation and inflationary expectations have recently stabilized and it may therefore take a considerable inflationary shock to set the rate of inflation in motion upwards again. Uncertainty undoubtedly remains, however, as to how actual increases in nominal GNP would be divided between prices and quantities, or in other words, whether the deflationary tendencies would dominate those inflationary pressures which can appear during the economic upswing.

In spite of growing public pressures in several countries for a relaxation of economic policy, the restrictive stance seems likely to continue for the time being. This implies that the recession will persist, and may even deepen, and that unemployment will increase further. Taking also into account the forecast weakening of commodity prices, it is evident that economic forces, both national and international, will tend on balance to be deflationary in the near future. The probable course of events can be described in the stylized fashion of chart 1.1.11 by the arrow going in the direction of B.

If inflationary expectations generally follow (with a lag), as was suggested above, the downward path of the inflation rate, they have most likely adjusted and stabilized around the actual rate of inflation during 1981. The continuing recession, however, would put further deflationary pressure on prices. Hence, a situation might soon arise in which an upswing could be achieved by expanding aggregate demand while inflation was still falling. The factors in favour of such a development would be the following:

Existing conditions of excess supply would dampen down the actual rate of inflation;

Inflationary expectations would be on the decline;

The external inflationary pressure from international markets would still be easing;

Strong productivity increases, with little new employment during the early stages of the upswing, would hold down the cost-push pressure on prices.

In Chart 1.1.11, this phase of the recovery is stylized by the line going from B towards C.

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[142] See, Commission of the European Communities, *European Economy*, Supplement Series B, December 1981 and January 1982.

In this first stage of recovery, an expansionary fiscal policy could be carried out without easing monetary restraint, in other words, without setting higher targets for the growth of money supply. This should be possible because the decline in the rate of increase in prices would make room for a higher rate of output growth within the limits of an unchanged rate of monetary growth.

It is, of course, hard to estimate in general how far an upswing of this nature would take the industrial market economies towards full employment before the reduction in the inflation rate came to an end (point C in Chart 1.1.11). This depends on many external and internal circumstances which vary from one country to another, but the previous discussion points at least to the following factors which should be watched closely:

There is no imminent danger from inflationary expectations as long as they have not caught up with the actual declining rate of inflation. The direction of their evolution, however, can easily be changed as a consequence of some external shock, such as a large depreciation of the domestic currency with which, in the minds of the public, faster inflation is usually associated;

If the upswing is strong and general it may create so much new demand for raw materials and intermediate goods that in the international markets their prices begin to rise fast enough to cause inflationary cost pressures to develop in individual countries. Sharp rises in commodity prices—including oil prices—are unlikely to occur independently of increasing aggregate demand on the part of the industrialized countries, excepting of course supply disruptions caused by special circumstances such as wars and crop failures;

Since the present recession has lasted a fairly long time and, consequently, the structural adjustment mechanism has slowed down, bottlenecks may reappear at a fairly early stage of a recovery. If bottlenecks manifest themselves in sectors of the economy where prices are flexible upwards, some prices may start accelerating and eventually put an end to the slowdown in the over-all rate of inflation.

Once the stage in the upswing is reached where the slowdown of inflation comes to an end, the policy problems—related to expanding economic activity towards full employment levels without provoking a faster rate of inflation (the movement from C in chart 1.1.11)—would be essentially the same as those which would arise, if general expansionary policies had been attempted at a higher level of inflation (the movement towards A in chart 1.1.11). Some of the possible obstacles to achieving a stable upswing in economic activity were discussed above.

From the point of view of stable development without inflation the concrete meaning of *full employment* is rather fluid and will vary from one country to another. It is certainly closely related to the inherent inflationary propensity of each country. Anyway, there exists, in any given situation, a certain rate of unemployment at which the current rate of inflation might be expected to remain unchanged. When the demand for labour is greater than this, the rate of inflation might be expected to accelerate continuously and when the demand for labour is smaller than this, inflation might be expected to decelerate. The following example should serve to clarify this relationship between unemployment and inflation.[143] Suppose (1) that the current rate of inflation is 10 per cent per annum and (2) that the rate of increase of labour productivity is 2 per cent per annum. If, in these circumstances, the money wage rate was rising by 12 per cent per annum, the rate of inflation could be expected to remain at (approximately) 10 per cent per annum; for in that case, productivity would cover 2 per cent of the 12 per cent rise in wage rates, so that wage costs per unit of output would be rising by 10 per cent. There would be a certain level of the demand for labour—that is to say, a certain rate of unemployment—which, with the cost of living rising at 10 per cent, would result in a rise in wage rates of 12 per cent. An unemployment rate lower than this would represent an increased demand for labour, and this would result in a rise in the rate of pay of more than 12 per cent, in which case costs per unit of output, and so prices, would start to rise by more than 10 per cent. There is thus at any one time an unemployment rate at which the current rate of inflation will be maintained; if the demand for labour is raised above this rate, the rate of inflation will start to accelerate; if the demand for labour is reduced below this level, the rate of inflation will be reduced.

This rate of unemployment at which the rate of inflation may remain constant, the "*non-accelerating inflation rate of unemployment*" (or NAIRU), will vary from one country to another depending on internal institutional arrangements.[144] One can safely assume, however, on the basis of scattered empirical evidence, that a full employment rate of unemployment (which would consist of only frictional and seasonal elements) is, in existing circumstances, lower than the rate at which the inflation rate would remain constant, i.e. the non-accelerating inflation rate of unemployment. To avoid unnecessary waste of economic resources—labour and capital equipment—governments would, in principle, aim at full employment, but it is doubtful whether any government would be willing to pay the price of continuously accelerating inflation, taking into account the present strong national and international commitments to fighting inflation. It would thus seem that, beyond the short-run objective of further dampening inflation, the longer-run objective should be to push the "non-accelerating inflation rate of unemployment" as close as possible to the rate of unemployment corresponding to full employment (i.e. where unemployment is only seasonal or frictional). To achieve this without returning to conditions of accelerating inflation would require in many countries, in addition to conventional stabilization policy measures which influence both aggregate demand and supply, radical institutional changes in the methods of price and wage fixing.[145] The tools of conventional stabilization policy aiming at expanding economic activity towards full employment should, however, be selected in such a way as to directly reduce inflationary pressure while allowing economic activity to expand. They might include reductions in purchase taxes and other charges which would have an immediate effect on the cost of living and on the costs of production.

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[143] Taken from J. E. Meade, *Stagflation, vol. 1—Wage-fixing*, George Allen & Unwin, London, 1982, p. 13.

[144] Otto Eckstein makes the distinction between the rate of unemployment at which the level of demand does not add to inflation and the rate that is required to avoid inflation in the presence of shocks. His estimate of the non-inflationary unemployment rate in the United States in the 1980s is 7.9 per cent with "reasonable expectations for shocks". Otto Eckstein, *op. cit.*, pp. 11–12 and p. 104.

It was proposed above that strict adherence to a given money supply target might be a serious obstacle to an upswing in activity with a constant rate of inflation. On the one hand raising the money target rate, which is a well-publicized figure, might have serious inflationary side-effects through its impact on expectations but, on the other hand, keeping the target rate of monetary growth unchanged would in all probability impinge on economic activity by raising interest rates—both nominal and real—to levels which would have considerable negative effects on investment activity and hence on the upswing as a whole. It would therefore become necessary to adopt a more flexible approach to the growth of the money supply as an objective of monetary policy. Another strong reason for a more flexible approach is that it is becoming increasingly evident that the measures of money supply applied are often misleading indicators of the underlying financial situation because of continuous and fast changes in the financial system. Current money supply changes may in fact provide the government and the public with incorrect information about the impact of the monetary policy being pursued.

The recession has now lasted for two years. It can be concluded on the basis of the analysis in section 1.1(vii) that while the dampening of the growth of aggregate demand has resulted in considerable additions to excess capacities of capital and labour, the sharp increases in oil prices, particularly in 1979 and 1980, abruptly upset the structure of relative prices and, as a consequence, wages may now be too high from the point of view of profitability. Hence too high a level of real wages may imply that full employment will not even be achievable in the short run. An increase in aggregate demand will of course raise employment; but some firms or sectors, even with sufficient demand for their products, may not employ all the labour they could and produce at full capacity because of low profitability. A situation of *classical unemployment* would emerge in some parts of the economy if aggregate demand were expanded. Because of low profitability, the rate of capital accumulation may have fallen to such an extent that productive capacity has not increased enough to permit full employment to be reached, even potentially. The weaker rate of capital accumulation has two aspects: an increased rate of scrapping of existing capital equipment and a lower rate of new investment.[146]

In a recent study[147] of the trade-off between real wages and employment in Belgium, it is shown that the short-run elasticity of employment with respect to real wages, keeping capacity constant, is probably quite small, but the corresponding medium-run elasticity taking into account capacity adjustments is probably sizeable (perhaps as high as −2). This reflects the fact that the scrapping of existing equipment becomes profitable at higher real wages. If firms experiencing a rise in wage costs merely accept some loss of sales and/or profits, then the reduction in employment tends to be less than proportional to the reduction in output, at least initially, and employment is reversible when output increases again. But if firms close down plants, it implies a permanent reduction in the potential demand for labour in those firms, thereby contributing an element of "classical unemployment" to the economy.

It is important to note that this study dealt with a small open economy and therefore the external balance was considered to be a binding constraint on demand management policy. As support for assuming the existence of this policy constraint, the study also provided an analysis of exchange rate adjustments. The tentative conclusion was that exchange rate adjustments might not make much difference in either the short or medium run from the point of view of the external balance and of employment. It can be inferred from the results of this study that even in an open economy the main impact of profitability (reflected in competitiveness in open economies) on unemployment works through its effect on productive capacity, and that the expansion of capacity is probably as sensitive to profitability in a small open economy as it is in a large one.

The rise in real wage rates has to some extent contributed to the decline in the rate of growth of output during the present recession. During the recession some of the medium-run capacity effects of wage increases must have worked through. Hence some part of the present unemployment, and particularly in those countries which suffer from weak external competitiveness, can very likely be classified as classical, i.e. unemployment which cannot be reduced merely by raising aggregate demand in the economy. It can, of course, be argued that this type of unemployment could not be sustained for a long period, because in market economies price and wage dynamics would eventually restore profitability. But in the framework of existing institutions, the dynamics of the market mechanism appear to be working slowly and it may therefore require many years to restore profitability. It has even been suggested[148] that the dynamics are not likely to lead the economy in the right direction: rather than bring full employment they could generate more unemployment, although of the Keynesian type that could, in principle, be overcome by an expansionary demand policy. Both the long adjustment process in the structure of relative prices and the great hardships that the process imposes on the economy suggest the recommendation that governments adopt active policies to restore full employment directly rather than wait for the slow adjustment process to run its course.

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[145] See for example, J. E. Meade, *op. cit.*

[146] On the role of profitability, see Edmond Malinvaud, *The Theory of Unemployment Reconsidered*, Basil Blackwell, Oxford 1977, and *Profitability and Unemployment*, Cambridge University Press, Cambridge 1980.

[147] Jacques H. Drèze and Franco Modigliani, The Trade-Off between Real Wages and Employment in an Open Economy (Belgium), *European Economic Review*, 15, 1981.

[148] Edmond Malinvaud, *Profitability and Unemployment*.

An important element in bringing the industrial market economies back to full employment would be to use prices and incomes policies to restore profitability, since an expansion of aggregate demand for output and labour could easily be cut short by rising inflation produced by the existence of pockets of "classical unemployment" in the economy. Improved profitability achieved by prices and incomes policies would provide further inducement to a faster rate of capital accumulation which is required to employ not merely the current but also a growing labour force.

The analysis in section (vi), of changing trends in productivity growth, concluded that there exists a fairly strong relationship between the growth of productivity and of output, and that the direction of causation is basically from output growth to productivity. Since one of the principal factors behind productivity growth is investment in new productive capacity, the results of that analysis imply that to stimulate investment growth, and consequently, productivity growth, expansion in output should be encouraged. Improved profitability as such would, of course, provide a further inducement to invest. Hence faster output growth combined with higher profitability would, in the short run, strengthen the potential demand for labour by reducing "classical unemployment", ease the potential pressure of cost inflation and, above all, in the medium run, provide for new productive capacity to employ the growing labour force.

This section has not discussed the longer-run problem of preserving full employment with stable prices; instead it has concentrated on the shorter- or medium-term problem of moving towards lower levels of unemployment without accelerating inflation. The argument presented here suggests that an expansion of aggregate demand is not sufficient: it would need to be accompanied by policies to improve the supply responses of the economy and by wage-fixing arrangements that would ensure that the growth of wages and salaries do not exceed the underlying growth of productivity.

### *The risk of depression*

The official national forecasts point to a very moderate upturn in the latter half of the current year. It is generally expected that the main sources behind this recovery will be the increase in stock investment after a period of destocking, a moderate increase in consumer demand and of exports. Fixed investment is expected to remain sluggish, slightly below the level of 1981.

Economic activity levelled off in 1981 at a low utilization rate of capital and a high rate of unemployment. There has been some indication that business expectations in Europe have tended to become more optimistic in 1981, but these expectations are short-term, extending only a few months ahead in time. Since the expected recovery has been repeatedly postponed, from the middle of 1981 to (now) the latter half of 1982, it means that actual developments have not corresponded to expectations in the last few months. This disappointment of expectations—which is not yet reflected in the business surveys—could have serious consequences for the general business climate, and it could have a highly depressing effect on business prospects in the longer run.

In the present precarious economic situation, where an expected recovery is based on rather fragile potential factors of recovery, a worsening of business expectations could trigger a further decline in fixed investment as well as postponing a recovery in the stock cycle. Other factors which at present could have similar depressive effects on investment are the continuing stringency in the financial markets producing high interest rates and the ever widening gap between potential and actual output (implying continuously rising underutilization of the capital stock). A more severe decline in investment would also have a negative effect on international trade and, more precisely, on the export growth which is assumed to be one of the stronger factors in the recovery of demand. The initial impact of these negative effects might be sufficient to set off a cumulative downward movement in activity and thus pave the way to a depression with a much greater number of unemployed than is presently forecast for 1982 (some 16 million in western Europe alone in 1982[149]).

Actual developments and the changing outlook during the next few months may be decisive as to whether activity will turn upwards or decline further towards depression. The cyclical downswing in the United States and the increasing uncertainty about a quick recovery means that the economic situation in the whole of the ECE region is now converging and will add further general downward pressure on the economies of North America and Europe.

The governments of the western industrialized countries may therefore find themselves in a difficult dilemma: either to maintain the present restrictive stance of anti-inflationary policies and consequently allow their economies to glide into a depression or to change the emphasis towards a gradual but steady expansion using measures not only to raise aggregate demand but also to support supply in the process of returning to a fuller utilization of resources: the latter is necessary to avert the re-emergence of an inflationary environment.

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[149] OECD, *Economic Outlook*, Paris, December 1981, p. 19.

APPENDIX TABLE

## Changes in the supply and use of resources in western Europe and North America, 1979–1982

*(Percentage change over previous year, in volume)*

| Country and base year of price index | GDP at market prices | Imports of goods and services | Total resources | Total domestic demand[a] | Gross domestic fixed capital formation: Total | Residential construction | Other construction | Machinery and equipment | Private consumption | Public consumption | Exports of goods and services |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria (1976) | | | | | | | | | | | |
| 1979 | 4.9 | 11.9 | 6.8 | 5.5 | 3.9 | 1.8 | | 7.9 | 3.8 | 3.2 | 10.4 |
| 1980 | 3.1 | 6.2 | 4.0 | 2.7 | 2.2 | −0.9 | | 6.2 | 1.2 | 1.6 | 7.2 |
| 1981 D | – | −1.0 | −0.2 | −2.9 | −0.6 | −1.7 | | 1.0 | – | 2.0 | 6.4 |
| 1982 D | 2.0 | 4.5 | 2.5 | 1.3 | −1.0 | −3.0 | | 1.0 | 1.0 | 2.0 | 6.0 |
| Belgium (1975) | | | | | | | | | | | |
| 1979 | 2.3 | 9.7 | 4.9 | 3.1 | −2.5 | 2.3 | −3.7 | | 4.4 | 2.6 | 8.3 |
| 1980 | 2.4 | 2.9 | 2.5 | 1.8 | 5.6 | 2.3 | 6.5 | | 1.7 | 1.6 | 3.9 |
| 1981 D | −1.0 | .. | .. | .. | −6.5 | .. | .. | .. | −1.5 | 0.5 | .. |
| 1982 D | 1.0 | .. | .. | .. | −2.0 | .. | .. | .. | – | 0.5 | .. |
| Denmark (1975) | | | | | | | | | | | |
| 1979 | 3.0 | 6.4 | 3.8 | 2.6 | −1.7 | −2.5 | −0.5 | −1.1 | 2.6 | 5.1 | 8.3 |
| 1980 | −0.2 | −7.2 | −2.0 | −4.5 | −13.7 | −20.3 | −14.2 | −7.2 | −4.1 | 5.2 | 5.9 |
| 1981 D | −1.0 | −2.0 | −1.5 | −3.5 | −15.5 | −23.0 | −12.5 | | −2.0 | 3.0 | 5.0 |
| 1982 J | 3.0 | 5.5 | 4.0 | 3.2 | 3.5 | −10.0 | 8.0 | | 2.5 | 2.5 | 5.5 |
| Finland (1975) | | | | | | | | | | | |
| 1979 | 7.6 | 16.1 | 9.3 | 9.4 | 3.8 | −3.4 | 1.1 | 13.4 | 5.6 | 3.7 | 9.2 |
| 1980 | 5.0 | 11.9 | 6.5 | 5.6 | 9.6 | 4.3 | 7.1 | 16.5 | 2.5 | 4.2 | 9.4 |
| 1981 J | 1.0 | −5.0 | −0.5 | −1.5 | −3.0 | .. | .. | .. | 1.5 | 3.5 | 2.5 |
| 1982 J | 1.5 | −0.5 | 1.0 | 1.0 | −2.5 | .. | .. | .. | 1.5 | 3.5 | 2.0 |
| France (1970) | | | | | | | | | | | |
| 1979 | 3.5 | 11.3 | 4.8 | 4.4 | 3.7 | 5.0 | 3.3 | | 3.5 | 1.7 | 6.8 |
| 1980 | 1.2 | 8.4 | 2.5 | 2.2 | 2.0 | −4.4 | 4.1 | | 2.1 | 2.6 | 3.4 |
| 1981 O | 0.6 | −3.5 | −0.2 | −0.9 | −3.2 | −3.0[b] | −3.3 | | 2.0 | 1.9 | 3.3 |
| 1982 O | 3.1 | 5.1 | 3.5 | 3.2 | 2.3 | 0.1[b] | 3.1 | | 2.5 | 2.7 | 4.9 |
| Germany, Fed. Rep. of[c] (1970) | | | | | | | | | | | |
| 1979 | 4.4 | 11.0 | 5.8 | 5.8 | 8.4 | 7.6 | 7.5 | 9.5 | 3.3 | 3.3 | 5.8 |
| 1980 | 1.8 | 5.8 | 2.7 | 1.7 | 3.7 | 3.4 | 5.2 | 2.9 | 1.7 | 2.6 | 5.9 |
| 1981 J | −0.3 | 1.8 | 0.1 | −2.5 | −2.9 | −3.3 | | −2.4 | −1.1 | 1.9 | 8.5 |
| 1982 F | 1.5 | 3.5 | 2.0 | – | −3.5 | .. | | .. | – | – | 6.5 |
| Ireland (1975) | | | | | | | | | | | |
| 1979 | 2.4 | 14.9 | 7.2 | 7.3 | 12.8 | 10.8 | 22.6 | 8.6 | 3.1 | 0.1 | 7.2 |
| 1980 | 1.9 | −4.5 | −8.0 | −4.1 | −7.7 | .. | .. | .. | −0.6 | 4.0 | 6.5 |
| 1981 O | 2.5 | 4.8 | 3.0 | 4.0 | 9.5 | .. | .. | .. | – | 1.0 | 1.0 |
| 1982 O | 1.0 | 2.0 | 1.5 | −1.0 | −4.0 | .. | .. | .. | −1.5 | – | 6.3 |
| Italy (1970) | | | | | | | | | | | |
| 1979 | 4.9 | 13.8 | 6.3 | 5.6 | 5.8 | 3.0 | 2.7 | 9.6 | 5.3 | 1.6 | 9.1 |
| 1980 | 4.0 | 7.9 | 4.6 | 6.9 | 10.0 | 3.8 | 3.8 | 17.3 | 4.4 | 2.0 | −4.3 |
| 1981 O | – | −7.0 | −1.2 | −2.2 | 0.1 | 2.0 | | −2.0 | 0.5 | 1.5 | 2.8 |
| 1982 D | 1.0 | 3.0 | 1.3 | 0.5 | −3.5 | .. | | .. | 1.3 | 2.0 | 5.0 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Netherlands (1977)** | | | | | | | | | | | |
| 1979 | 1.8 | 6.1 | 3.2 | 1.2 | −1.5 | −6.6 | 1.4 | 1.0 | 2.2 | 2.4 | 7.3 |
| 1980 | 0.6 | −0.7 | 0.2 | −0.7 | −2.6 | 2.6 | −0.5 | −6.6 | −0.9 | 1.4 | 1.8 |
| 1981[c] S | −1.0 | −3.0 | −1.5 | −4.0 | −6.5 | −4.5 | −7.5 | | −3.0 | 1.0 | 2.5 |
| 1982[c] S | 1.0 | 2.5 | 1.5 | −0.5 | −2.0 | −5.0 | −1.0 | | −2.0 | – | 5.0 |
| **Norway (1975)** | | | | | | | | | | | |
| 1979 | 4.5 | −0.7 | 3.0 | 3.2 | −5.5[d] | 3.0 | −3.3 | −11.4[d] | 2.3 | 3.9 | 2.5 |
| 1980 | 3.8 | 4.0 | 3.8 | 5.0 | 1.9[d] | 1.1 | 7.5 | 1.5[d] | 1.7 | 4.2 | 1.4 |
| 1981 O | 0.1 | −1.7 | −0.4 | 0.6 | 13.2[d] | 1.5 | 16.0 | | 1.1 | 4.2 | −2.4 |
| 1982 O | −0.1 | 6.2 | 1.7 | 2.7 | −0.1[d] | 2.1 | −0.5 | | 1.0 | 3.3 | −0.3 |
| **Sweden (1975)** | | | | | | | | | | | |
| 1979 | 4.1 | 12.8 | 6.1 | 5.9 | 5.6 | 1.7 | −0.5 | 11.4 | 2.7 | 4.8 | 6.5 |
| 1980 | 1.8 | 1.1 | 1.7 | 2.7 | 3.1 | −3.5 | 3.4 | 6.1 | – | 2.5 | −1.5 |
| 1981 J | −0.8 | −6.5 | −2.1 | −2.8 | −6.1 | −7.0 | −6.7 | −4.8 | −1.3 | 1.8 | −0.1 |
| 1982 J | 1.0 | 1.0 | 1.0 | −1.0 | −4.4 | −9.6 | −6.4 | | −1.8 | 0.5 | 6.7 |
| **Switzerland (1970)** | | | | | | | | | | | |
| 1979 | 2.5 | 6.9 | 3.9 | 4.4 | 5.1 | 5.0 | | 5.3 | 1.3 | 1.1 | 2.5 |
| 1980 | 4.4 | 7.2 | 5.3 | 5.4 | 9.9 | 9.1 | | 11.4 | 2.5 | 1.6 | 5.1 |
| 1981 J | 0.6 | −1.6 | −0.1 | −1.3 | 2.9 | 3.5 | | 2.0 | 0.7 | 0.5 | 2.7 |
| 1982 J | −1.1 | 0.2 | −0.7 | −1.1 | −3.5 | −5.0 | | −1.0 | 0.3 | 3.3 | 0.2 |
| **United Kingdom (1975)** | | | | | | | | | | | |
| 1979 | 1.4 | 11.2 | 3.5 | 3.8 | 0.3 | −12.6 | −4.0 | 8.7 | 4.7 | 1.7 | 2.6 |
| 1980 | −1.4 | −3.3 | −1.8 | −2.6 | −0.7 | −12.0 | −3.9 | 5.2 | 0.1 | 2.3 | 0.9 |
| 1981 D | −2.2 | −4.1 | −2.7 | −1.8 | −5.3 | .. | .. | .. | 0.3 | – | −5.6 |
| 1982 D | 1.2 | 8.7 | 2.9 | 3.1 | 1.8 | .. | .. | .. | 0.1 | 0.4 | 2.4 |
| **Canada[c] (1971)** | | | | | | | | | | | |
| 1979 | 3.0 | 6.0 | 3.7 | 3.9 | 5.4 | −7.3 | 7.1 | 11.2 | 2.0 | 0.5 | 2.7 |
| 1980 | – | −2.2 | −0.5 | −0.8 | 3.8 | −10.6 | 8.7 | 5.6 | 1.0 | −0.5 | 1.0 |
| 1981 N | 3.6 | 5.2 | 4.0 | 4.8 | 8.6[e] | 9.8 | 8.2 | | 2.3 | 2.2[e] | 1.5 |
| 1982 N | 2.2 | 1.1 | 1.9 | 1.9 | −0.5[e] | −0.9 | −0.4 | | 2.3 | 2.7[e] | 2.1 |
| **United States[c] (1972)** | | | | | | | | | | | |
| 1979 | 3.2 | 6.0 | 3.4 | 2.3 | 3.1[e] | −5.5 | 8.9 | 5.5 | 2.9 | 1.4[e] | 15.2 |
| 1980 | −0.2 | −0.1 | −0.2 | −1.1 | −7.1[e] | −19.6 | −0.2 | −4.1 | 0.5 | 2.9[e] | 9.7 |
| 1981 F | 1.9 | 6.1 | 2.2 | 2.6 | 0.1[e] | −6.6 | 4.9 | 0.7 | 2.6 | 0.4[e] | −0.7 |
| 1982 F | 3.0[f] | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

*Sources:* Austria: Oesterreichisches Institut für Wirtschaftsforschung, *Monatsberichte*, No. 12/1981; Belgium: Institut National de Statistique, *Les comptes nationaux de la Belgique 1970–1980*; Denmark: *Konjunkturoversigt*, December 1981, and *Dansk Okonomi*, November 1981; Finland: *Economic Survey 1981*, September 1981, and Ministry of Finance, *Conjunctural Survey*, 29 January 1982; France: *Rapport sur les Comptes de la Nation 1980*, and *Comptes Prévisionnels de la Nation pour 1981 et principales hypothèses économiques pour 1982*; Germany, Federal Republic of: *Wirtschaft und Statistik* No. 9/1981, *Statistischer Wochendienst* No. 2/1982, and *Jahreswirtschaftsbericht 1982 der Bundesregierung*, February 1982; Ireland: Central Statistics Office, *National Income and Expenditure 1979*, and The Economic and Social Research Institute, *Quarterly Economic Commentary*, October 1981; Italy: *Quadri della contabilità nazionale italiana 1980*, and *Relazione previsionale e programmatica per il 1982*; Netherlands: *Nationale Rekeningen 1980*, and Central Planning Bureau, *Macro Economische Verkenning 1982*, September 1981; Norway: *Nasjonalregnskap 1969–1980*, and *National Budget 1982*, September 1981; Sweden: *Nationalräkenskaper 1970–1980*, and *Preliminary National Budget 1982*, January 1982; Switzerland: *La vie économique* No. 1/1982; United Kingdom: Central Statistical Office, *National Income and Expenditure, 1981 Edition*, and H.M. Treasury, *Economic Progress Report Supplement, December 1981*; Canada: *Bank of Canada Review*, October 1981, and Department of Finance, *The Current Economic Situation and Prospects for the Canadian Economy in the Short and Medium Term*, November 1981; United States: *Economic Report of the President*, February 1982; OECD: *Economic Outlook*, December 1981.

*Note:* Key to the months in which data were released:

| | | |
|---|---|---|
| S – September 1981 | N – November 1981 | J – January 1982 |
| O – October 1981 | D – December 1981 | F – February 1982 |

[a] Including stock changes.

[b] Household investment.

[c] Gross national product.

[d] Including ships and oil exploration:

| | *Data excluding ships and oil exploration are:* | | *Data excluding ships are:* | |
|---|---|---|---|---|
| | *Total GD FCF* | *Machinery and equipment* | *Total GD FCF* | *Machinery and equipment* |
| 1979 | −1.8 | −2.6 | −6.5 | −14.5 |
| 1980 | 3.5 | 6.7 | 2.0 | 2.1 |
| 1981 | 0.1 | .. | 10.8 | .. |
| 1982 | −0.5 | .. | −5.0 | .. |

[e] Government fixed capital formation is included with government consumption.

[f] Fourth quarter to fourth quarter.

## CHAPTER 2

# SOUTHERN EUROPE

## 1. RECENT ECONOMIC DEVELOPMENTS IN SOUTHERN EUROPE

The year 1981 was unfavourable for most south European countries. Total output stagnated in Greece, growth remained very mediocre in both Portugal and Spain, and decelerated in Yugoslavia; in Turkey there was a recovery, but only after two years of set-back. The combined current balance of payments deficit of these countries improved from $13.6 billion in 1980 to about $12.4 billion in 1981; but except for Turkey the improvement was due more to the effect of a fall in imports because of low levels of activity, than to a strong recovery of exports and invisible receipts. Inflation worsened in all countries, except Turkey, with annual rates ranging between 14 per cent in Spain and about 40 per cent in both Turkey and Yugoslavia.

All the official forecasts foresee a faster rate of economic growth in 1982 and, except for Portugal, a deceleration in the rate of inflation. However, the expected rates of output growth in 1982 are very moderate (2 to 3 per cent in Greece, Portugal, Spain and Yugoslavia, and just over 4 per cent in Turkey. Virtually every national forecast was made before the end of 1981 when the expectations of an earlier and stronger economic revival in the west were more general than at present. The current account deficit remains a general structural weakness in all these countries and a constraint on expansionary policies. For this reason, a slower recovery than forecast in the western market economies would put the 1982 forecasts for output growth at risk, particularly in Portugal, Turkey and Yugoslavia, but even in the best case it is clear that none of these countries in 1982 will approach the growth rates prevailing before 1973.

### *Output and demand*

The slowdown in economic activity in *Greece* started during 1980 and became more pronounced in 1981 when total output stagnated. Industrial output, which had started to stagnate during the second half of 1980, decreased by about 1.7 per cent in 1981; manufacturing output is estimated to have fallen by 2 per cent, mostly due to a drop of over 6 per cent in the production of capital goods. Production of consumer durables stagnated and output of other consumers goods, which had declined by nearly 2 per cent in 1980, remained at virtually the same level in 1981.

Following the usual two-year cycle, agricultural output decreased slightly during 1981, while construction activity, which had fallen considerably in 1980, continued to fall in 1981 but at a lower rate due to greater government expenditure on public works. Services were the only major sector where there was some expansion of output in 1981, although less than in 1980. The increase seems to be due mainly to government and public services.

The only expanding segment of domestic demand in 1981 was public consumption (which increased by 3.5 per cent); private consumption stagnated for the second year in succession, and gross fixed capital formation decreased even more than in 1981. Foreign demand, which had declined in 1980, regained a certain dynamism in 1981, particularly during the first half of the year, but even if its contribution to the growth of output was positive again in 1981 (and the available data are still too partial to confirm this) its contribution to growth will have been marginal.

Public investment remained virtually stagnant in 1981: the decrease in fixed capital formation, therefore, was mostly due to private investment. Unlike 1980, when private investment in industrial equipment continued to expand (although at the low rate of 1.8 per cent), private investment in productive equipment in 1981 decreased even more rapidly than investment in housing (by 18 and 15 per cent respectively). No data are available on stock changes but the decline in the value of imports, poor agricultural output, and the low level of industrial activity would all suggest a fall in stocks.

The output cycle in *Portugal* since 1973 has echoed in an amplified manner the output fluctuations in the industrial countries. The cycle had peaks in 1973 and 1976 (total output increasing respectively by 11.2 and 6.9 per cent) and a trough in 1975 when total output declined by −4.3 per cent. The first "oil" cycle was followed by a period of deceleration in 1977 and 1978 and a period of moderate expansion in 1979–1980 followed by a rapid deceleration in 1981.

The decelerations of 1977 and 1981 were both caused by restrictive policies aiming mainly at a restoration of a foreign current balance which had severely deteriorated. The 1977 adjustment was made necessary by the prolongation of excessively expansionary policies in 1976. The main question at the onset of 1982 is whether the change towards more restrictive policies will lead to a period of stagnation lasting at least the whole of 1982 or, as was the case in 1978, to a rapid correction of the external imbalance accompanied by a restoration of confidence and rising output and investment.

According to preliminary estimates real GDP at factor cost increased by about 1.5 per cent in 1981 compared with 5.5 per cent in 1980. The deterioration affected all the major sectors, because of bad weather there were falls in agricultural and energy output (table 2.1.1).

Within the industrial sector the expected increase of 2 per cent in manufacturing should offset declines of about 10 per cent in mining and public utilities. The dry weather caused a decline of 23 per cent in hydroelectrical production (during the first quarter of 1981) and the decline became more acute thereafter. Net imports of electricity increased from $9 to $103 million in the first half of 1980, compared with the same period of 1981, and the increase in fuel oil imports during the same period is estimated at nearly $300 million, accounting for 74 per cent of the increase in the trade deficit. The evolution of manufacturing output was mainly influenced by the contraction of foreign demand (textiles) and heavy industry (chemicals, basic metals), but certain light branches of industry (rubber goods) and branches producing inputs for the construction sector (non-metallic minerals) did rather better. In general the stagnation of industrial production during the first half of the year was due to the fall in foreign demand, domestic demand decelerating during the second half of 1981.

The construction sector was the most dynamic in 1981 although the growth of output was less than in 1980 and investment demand seems to have decelerated rapidly in the second half of the year in spite of the rapidly increasing number of projects submitted under the new consolidated system of investment incentives (*S.I.I.*) during the first three quarters of the year.

The service sectors continued to expand moderately in 1981, mostly it would seem under the stimulus of rather brisk consumers' demand (for motor cars and durable goods) during the first half of the year. The retail trade also faced a relatively strong demand for non-durable consumer goods influenced by the lagged effects of the increases in real disposable income throughout 1980. Foreign demand for services, however, weakened.

The most important change in the components of demand in Portugal during 1981 was the fall in foreign demand for goods and services: this had been the most dynamic element in 1979 and second only to capital formation in 1980. Net borrowing from abroad, in current prices, increased from just over 10 per cent of GDP (at market prices) in 1979 to 14.3 per cent in 1980 and to over 19 per cent in 1981. The growth of domestic demand fell from 6 per cent in 1980 to about 3.5 per cent in 1981. Private consumption continued to increase, mostly during the first half of the year before the acceleration of prices eroded real purchasing power. Public consumption probably decelerated, particularly after the measures taken in August 1981 to reduce the growth of government expenditure.[150] Gross fixed capital formation increased by 6 per cent and was the most dynamic segment of total demand, but its rate of increase was less than in 1980. Investment in machinery probably decelerated less than total investment due to the fact that the growth of public and mixed-enterprise investment decelerated to only half the increase in 1980 (14.7 per cent).

The gross investment ratio, at current prices, changed little from 1980 to 1981, in both years it was a little over 27 per cent of gross domestic expenditure. The savings ratio of the household and enterprise sectors combined, however, declined from 27.3 per cent of disposable income in 1980 to 23.5 in 1981. The negative saving of public administrations increased in terms of national expenditure from 4.1 per cent of GDP in 1980 to 4.8 in 1981. Foreign saving which financed 17 per cent of total gross investment in 1980, accounted for 32 per cent in 1981.

Data on stocks are rather scanty but it would seem that the fall which took place in the agricultural sector following the disastrous harvest of 1981 was offset by an unwanted accumulation of finished products in manufacturing, particularly in branches highly dependent on foreign demand (such as textiles and cork manufactures).

The economy of *Spain* was severely affected by the two oil cycles. As in the case of Portugal, the difficulties of adjustment were compounded by the institutional changes taking place at the same time. Policies of adjustment to the first oil price shock were delayed until 1977: until then Spanish rates of output growth were above those of the more advanced western countries. Consequently economic growth in 1976 and 1977 was lower than in the advanced western countries. There was a mild economic recovery from mid-1978 to 1979 when it was cut short by the second rise in oil prices. As a result economic growth in Spain has fallen below that of other western countries and for the period 1977–1981 the annual rate of growth of GDP has been 1.3 per cent per year. Gross fixed capital formation fell uninterruptedly from 1975 to 1980. Employment fell between 1974 and 1981 by 2 million persons, i.e. at an annual rate of 2.4 per cent and unemployment rose steadily from 3.2 per cent of the active population in 1979 to 14.5 per cent (i.e. roughly 2 million unemployed) in the third quarter of 1981. The synchronization of the Spanish industrial cycle with those of the advanced western countries became extremely close during 1968–1971, as it was during the first oil cycle, but the western cycle of a mild recovery in 1977 and 1979 and a new deceleration in 1980–1981 is not reflected in Spain where industrial production remained near to stagnation (0.6 per cent annual growth between 1978 and 1981).

In 1981 gross domestic product (at factor cost) increased by only 1 per cent and this weak performance was shared by all the major sectors of output and demand except services and gross fixed

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[150] In nominal terms *authorized* expenditure by the state on goods and services increased during the first half of 1981 by 41 per cent but the increase is inflated due to the inclusion of expenditures which should be spread throughout the year.

TABLE 2.1.1

### Annual changes in output, demand and prices, in selected south European countries

*(Annual percentage changes and percentage share in gross domestic product)*

| | 1970–1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1970–1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Annual percentage changes* | | | | | *Greece* | | | | | | | | | *Portugal* | | | | |
| Output (at constant prices) | | | | | | | | | | | | | | | | | | |
| GDP at factor cost | 8.4 | −1.8 | 5.1 | 6.1 | 2.9 | 6.4 | 3.7 | 1.9 | – | 9.2 | 2.2 | −4.7 | 6.6 | 5.6 | 3.1 | 4.5 | 5.6 | 1.6 |
| *of which:* | | | | | | | | | | | | | | | | | | |
| Agriculture | 4.5 | 4.8 | 5.7 | −1.3 | −7.4 | 10.4 | −5.0 | 11.5 | −1.5 | 1.7 | −1.2 | −6.5 | −1.5 | −10.0 | 4.0 | 9.0 | 3.0 | −5.0 |
| Industry | 13.1 | −3.3 | 5.9 | 10.2 | 2.8 | 6.9 | 6.0 | 0.3 | −1.7 | 10.5 | 3.7 | −8.8 | 4.3 | 10.4 | 3.4 | 5.2 | 5.2 | 1.0 |
| Construction | 7.3 | −31.2 | 5.4 | 6.2 | 12.1 | 4.3 | 6.3 | −14.4 | −9.0 | 10.5 | 3.5 | −15.7 | 5.0 | 11.0 | 5.0 | −4.0 | 9.0 | 6.0 |
| Services | 8.0 | 2.6 | 4.5 | 6.4 | 4.9 | 5.4 | 4.7 | 2.5 | 1.9 | 10.5 | 1.5 | 2.1 | 11.2 | 6.1 | 2.2 | 3.8 | 6.3 | 3.5* |
| Demand (at constant prices) | | | | | | | | | | | | | | | | | | |
| GDP at market prices | 7.8 | −3.6 | 6.1 | 6.4 | 3.4 | 6.7 | 3.8 | 1.7 | . . | 8.7 | 1.1 | −4.3 | 6.9 | 5.6 | 3.2 | 4.5 | 5.5 | 1.4 |
| Domestic demand (GDP + Imports–Exports) | 8.2 | −6.5 | 5.5 | 5.1 | 4.7 | 5.5 | 4.1 | 0.1 | . . | 9.5 | 6.3 | −8.9 | 7.2 | 7.2 | – | 1.1 | 6.0 | 3.6 |
| Private consumption | 7.1 | 0.6 | 5.4 | 5.3 | 4.7 | 6.1 | 3.0 | −0.2 | – | 7.9 | 9.7 | −0.9 | 3.5 | 0.6 | 0.4 | 1.7 | 4.5 | 3.5 |
| Public consumption | 5.8 | 12.1 | 11.9 | 5.1 | 6.5 | 3.5 | 5.8 | −0.4 | 3.5 | 7.5 | 17.3 | 6.6 | 7.0 | 11.8 | 6.0 | 5.2 | 5.6 | 3.3 |
| Fixed capital formation | 8.9 | −25.6 | 0.2 | 6.8 | 7.8 | 6.0 | 7.9 | −8.3 | −10.5 | 11.1 | −7.0 | −11.3 | 0.8 | 12.0 | 4.0 | −1.6 | 9.0 | 6.7* |
| Exports of goods and services | 17.6 | −2.8 | 10.9 | 15.7 | 1.0 | 15.8 | 6.3 | . . | . . | 7.7 | −15.7 | −15.6 | – | 5.9 | 14.6 | 27.3 | 8.2 | −3.5 |
| Imports of goods and services | 15.4 | −16.3 | 6.3 | 6.1 | 8.0 | 7.2 | 7.2 | . . | . . | 10.1 | 4.8 | −25.2 | 3.4 | 12.0 | −1.8 | 7.8 | 9.6 | 5.0 |
| Prices | | | | | | | | | | | | | | | | | | |
| GDP deflator (at market prices) | 7.9 | 20.9 | 12.3 | 15.4 | 13.0 | 12.9 | 18.7 | 18.4 | 22.0* | 6.1 | 18.9 | 16.2 | 16.3 | 26.4 | 21.1 | 22.0 | 14.9 | 17.5 |
| Wholesale prices – total | 9.3 | 36.7 | 6.8 | 14.0 | 13.7 | 10.3 | 21.0 | 28.4 | 26.4$^{a}$ | 5.6 | 28.3 | 13.7 | 19.3 | 28.8 | 31.3 | 29.8 | 6.7 | 20.1$^{b}$ |
| Consumer prices – total | 6.5 | 26.9 | 13.4 | 13.3 | 12.1 | 12.6 | 19.0 | 24.9 | 24.5 | 10.5 | 25.1 | 20.4 | 19.3 | 27.3 | 22.1 | 24.2 | 16.6 | 19.6$^{a}$ |
| food | 8.4 | 27.6 | 11.8 | 13.9 | 14.0 | 14.3 | 18.8 | 27.5 | 30.1 | 8.2 | 32.6 | 23.6 | 23.3 | 31.9 | 22.4 | 28.0 | 10.4 | 18.5$^{a}$ |
| *Percentage share in GDP/MP* | | | | | | | | | | | | | | | | | | |
| Change in stocks | 4.0 | 6.3 | 5.5 | 4.8 | 4.0 | 3.5 | 3.9 | 4.0 | . . | 4.8 | 5.2 | −3.4 | 0.4 | 3.8 | 2.1 | 1.9 | 2.5 | 2.5* |
| Exports *less* imports (of goods and services) | | | | | | | | | | | | | | | | | | |
| at current prices | −8.9 | −10.1 | −10.5 | −8.9 | −9.2 | −8.0 | −8.8 | −8.4 | . . | −6.6 | −15.5 | −12.5 | −13.5 | −15.1 | −11.9 | −10.3 | −14.3 | −19.3 |
| at constant prices | −8.7 | −7.3 | −7.8 | −5.4 | −6.7 | −5.5 | −5.8 | −4.1 | . . | −7.4 | −14.9 | −9.5 | −9.8 | −11.4 | −8.0 | −4.5 | −5.0 | −7.3 |
| *Annual percentage changes* | | | | | *Spain* | | | | | | | | | | | | | |
| Output (at constant prices) | | | | | | | | | | | | | | | | | | |
| GDP at factor cost | 6.8 | 5.9 | 1.3 | 3.3 | 3.1 | 2.7 | 0.3 | 1.5 | 1.0 | | | | | *Turkey* | | | | |
| *of which:* | | | | | | | | | | | | | | | | | | |
| Agriculture | 3.4 | 7.3 | −0.2 | 4.4 | −4.3 | 6.6 | −3.3 | 9.0 | −9.6 | 6.1 | 8.8 | 8.9 | 8.7 | 5.7 | 3.7 | 0.8 | −1.0 | 4.2 |
| Industry | 9.9 | 6.2 | −0.6 | 3.4 | 4.7 | 1.8 | 0.6 | 0.8 | 0.5 | 1.2 | 10.3 | 10.9 | 7.6 | −1.2 | 2.8 | 3.0 | 1.7 | 0.5 |
| Construction | 4.1 | 4.5 | −4.0 | −3.9 | −2.0 | −4.7 | −4.9 | −4.0 | −2.0 | 7.9 | 8.3 | 9.0 | 10.3 | 12.9 | 3.7 | −4.0 | −5.5 | 7.6 |
| Services | 6.0 | 5.7 | 3.9 | 4.0 | 4.4 | 3.6 | 1.5 | 1.2 | 3.0 | 5.6 | 6.1 | 8.5 | 8.3 | 5.5 | 4.1 | 4.2 | 0.8 | 0.8 |
| | | | | | | | | | | 8.6 | 8.5 | 7.9 | 8.6 | 5.9 | 4.1 | 1.9 | −0.2 | 5.0 |

TABLE 2.1.1 (*continued*)

| | *1970–1973* | *1974* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *1981* | *1970–1973* | *1974* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *1981* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Spain* (continued) | | | | | | | | | *Turkey* (continued) | | | | | | | | |
| Demand (at constant prices) | | | | | | | | | | | | | | | | | | |
| GDP at market prices | 6.3 | 5.7 | 1.1 | 3.0 | 3.3 | 1.9 | 0.4 | 1.5 | 1.2 | 6.2 | 8.5 | 8.9 | 8.5 | 4.4 | 3.0 | 0.6 | −2.3 | 4.0 |
| Domestic demand (GDP + Imports–Exports) | 6.3 | 6.0 | 0.9 | 3.0 | 1.1 | 0.4 | 0.7 | 1.3 | 0.2* | 6.6 | 9.4 | 9.3 | 8.1 | 6.1 | −1.1 | 0.7 | −0.4[c] | 3.0[c] |
| Private consumption | 6.5 | 4.1 | 2.0 | 4.3 | 2.5 | 1.6 | 0.9 | 0.7 | – | 5.8 | 7.6 | 7.5 | 7.8 | 2.5 | 2.2 | 4.1 | 0.9 | 2.0 |
| Public consumption | 5.5 | 8.3 | 5.2 | 5.3 | 4.1 | 5.5 | 4.2 | 3.2 | 2.0 | 6.4 | 4.7 | 11.4 | 16.1 | 15.8 | −3.3 | −2.9 | 6.7 | 3.5 |
| Fixed capital formation | 7.6 | 6.7 | −3.9 | −2.0 | −0.2 | −1.8 | −4.6 | 1.4 | 2.5 | 8.6 | 2.1 | 16.8 | 15.6 | 7.4 | −10.9 | −10.1 | −6.1 | 6.0 |
| Exports of goods + services | 14.8 | 7.7 | −0.1 | 14.4 | 9.6 | 10.6 | 10.8 | 3.9 | 4.0* | 15.5 | −9.5 | 6.8 | 23.6 | −31.9 | 27.2 | −13.7 | . . | . . |
| Imports of goods + services | 12.0 | 8.9 | −1.2 | 10.3 | −5.5 | −0.7 | 11.0 | 2.5 | −2.5* | 17.6 | 4.4 | 12.2 | 14.0 | −3.2 | −29.1 | −9.5 | . . | . . |
| Prices | | | | | | | | | | | | | | | | | | |
| GDP deflator (at market prices) | 8.8 | 16.6 | 16.7 | 16.7 | 22.8 | 20.0 | 16.7 | 12.9 | . . | 16.9 | 27.8 | 16.4 | 17.0 | 25.0 | 43.6 | 67.3 | 106.7 | 42.8 |
| Wholesale prices – total | 6.1 | 18.0 | 12.6 | 15.3 | 17.0 | 14.0 | 10.9 | . . | . . | 15.3 | 29.9 | 10.1 | 15.6 | 24.1 | 52.6 | 63.9 | 107.2 | 36.8 |
| Consumer prices – total | 8.4 | 15.7 | 17.0 | 17.6 | 24.5 | 19.8 | 15.7 | 15.6 | 14.6 | 13.5 | 18.6 | 20.1 | 15.3 | 28.4 | 49.5 | 56.5 | 116.6 | 34.0[c] |
| food | 8.3 | 14.2 | 17.1 | 18.7 | 23.7 | 19.1 | 10.2 | 9.1 | 13.6[d] | 13.2 | 19.1 | 30.0 | 17.9 | 30.6 | 44.7 | 51.4 | 106.7 | . . |
| *Percentage share in GDP/MP* | | | | | | | | | | | | | | | | | | |
| Change in stocks | 1.4 | 2.2 | 2.2 | 2.2 | 1.3 | 0.5 | 1.1 | 1.3 | 0.8* | 0.9 | 4.3 | 4.0 | 2.0 | 2.8 | 2.8 | 3.0 | . . | . . |
| Exports *less* imports at current prices | −4.6 | −8.1 | −7.0 | −7.0 | −5.1 | −2.6 | −2.8 | −5.3 | . . | −3.2 | −6.9 | −8.1 | −6.9 | −8.2 | −4.2 | −5.1 | −7.3 | −6.4 |
| at constant prices | −5.0 | −6.4 | −6.1 | −6.1 | −3.9 | −2.4 | −2.6 | −2.5 | −1.4* | −2.5 | −3.9 | −4.3 | −4.0 | −5.6 | −1.4 | −1.5 | . . | . . |

*Sources: National Accounts of OECD Countries, 1962–1979*, Paris, Volume II; ECE secretariat estimates; and Bank of Greece, *Monthly Statistical Bulletin*; Banco de Portugal, *Relatório do conselho de administração*, gerência de 1978, 1979, 1980; Ministerio das Finanças e do Plano, *As grandes opçoes do Plano para 1982*; Instituto Nacional de Estatística, *Boletim mensal de estatística*; Banco de Portugal, *Boletim trimestrial*; Instituto Nacional de Estadística, *Contabilidad de España base 1970, años 1970–1977*, 1978 y 1979 Provisionales y avance de 1980; Banco de España, *Informe anual* 1981; Banco de España, *Boletín estadístico*; Ministerio de Economía y Comercio, *Información económica española* (weekly edition) and *Press Release*, November 1981; Ministry of Finance, *Yillik Ekonomik Rapor*, various issues; The Central Bank of Turkey, *1980 Annual report*; State Institute of Statistics, *Aylik Istatistik Bülteni* and *Aylik Fiyat Indeksleri Bülteni*.

[a] January–November.

[b] January–October.

[c] Series with different base year.

[d] Excluding stock building.

capital formation (table 2.1.1). The main changes in 1981 were already under way in 1980. The main difference between the 1981 and the 1975 deceleration is that the first oil price shock occurred when total industrial demand was very high and capacity utilization was about 91 per cent; in 1979 capacity utilization was much lower (81 per cent in the second quarter) but, unlike 1975, the prospects for industrial production were still rising moderately. The second oil shock was mainly reflected in a lowering of growth in 1980 to a rate below that which might have been expected.[151]

Another difference is the very sharp reversal of the investment cycle in 1974–1975 to negative rates which lasted until 1979 and the much greater resilience of investment, particularly in machinery, after 1979.[152] The third main difference is that during the first oil cycle total consumption continued to expand until roughly mid-1977, but in the period 1979 to 1981 private consumption expansion was kept virtually stagnant. Finally, current borrowing from abroad which had increased rapidly in the period 1973–1976 to roughly 6 per cent of GDP (at constant 1970 prices) fell to about 2.5 per cent in 1978–1980.

From the point of view of output the main difference in the evolution of the Spanish economy in 1980 and 1981 is that in 1980 the increase in agricultural output accounted for about 40 per cent of the increase in total output; but in 1981 value added in agriculture declined by about 10 per cent (table 2.1.1) and contributed roughly 1 per cent of the fall in GDP (at factor cost). Agricultural terms of trade and agricultural incomes declined considerably. A negative factor in 1981 was a fall in the use of intermediate inputs in agriculture, which could be interpreted as a defensive strategy by farmers to maintain their profits by returning to more primitive forms of production.[153]

The industrial sector virtually stagnated in 1981, increasing by less than 1 per cent (table 2.1.1). The index of industrial production was 2 per cent down on the previous year during the first quarter of 1981, 0.6 up in the second and down again in the third. The evolution of the different components of the index was strongly influenced by the pattern of demand. Thus, investment goods continued the strong upward trend (but from very low levels) apparent since the start of 1980, while intermediate and consumer goods continued on a mildly declining trend. Foreign demand was the main support of industrial production in 1981. The stock of orders in industry declined from mid-1979 to mid-1980 and then flattened until mid-1981, when there was some recovery mainly under the influence of the investment goods sector and, more recently, of the consumer goods sector. The stock of orders remained below normal, but in November 1981 was 4 points higher than in November 1980. Capacity utilization remained low (77.6 per cent in September 1981) and at about the same levels as in 1980. Most indicators for the construction sector (consumption of building materials, etc.) point to a decline in output due mostly to housing. In spite of the implementation of a three-year housing plan, housing starts declined during the first three quarters by 1 per cent and completions by 16 per cent; the civil engineering sector has probably recovered slightly under the stimulus of rising public investments, particularly those connected with the National Energy Programme.

Although the data are scanty the service sectors may have expanded moderately in 1981 as the number of tourists increased by 5.5 per cent (reaching 40.1 million), thus stimulating consumption by non-residents (as confirmed by the data on the volume of sales by chain stores and on catering activities); moreover, employment in services increased due to higher employment (2 per cent) in the public sector. Nevertheless, the estimate in table 2.1.1 should be taken only as a rough order of magnitude.

The economic performance of *Turkey*, which was alarmingly poor during the late 1970s, started to improve towards the end of 1980 due to the introduction of the Stabilization Programme in January 1980 and the favourable effects of increasing foreign aid. However, by the end of 1980 the main economic indicators for the Turkish economy were still not favourable, with falling output and investment, a deteriorating external deficit and an inflation rate over 100 per cent. Even in the absence of accurate and adequate statistical information, 1981 still appears to have been a favourable year for the Turkish economy. According to provisional official estimates, GDP grew by over 4 per cent, capacity utilization improved in most sectors, the annual inflation rate fell by two thirds, exports, workers' remittances and other invisible receipts increased more than planned, the current account deficit fell by one third and investment demand grew after three years of decline.

Although the priority target of the 1981 programme was to check the inflation rate, production showed a considerable upturn after the stagnation of 1979 and the decline of 1980. In all major sectors except agriculture and construction, output growth surpassed the target growth rates for 1981.

According to provisional estimates, based on the data for the first 10 months of 1981, GDP at factor cost grew by 4.2 per cent and GNP by 4.4 per cent. The target growth rates for GDP and GNP were both 3 per cent.

Industrial production, which slowed down in 1978 and declined during the following two years, increased by 7.6 per cent (more than double the target rate) and more than three quarters of this increase was accounted for by the increase in manufacturing production. This significant improvement in industrial production was due to increased imports of essential supplies, the easing of energy bottlenecks and the virtual disappearance of labour unrest. The construction sector, which is the hardest hit by the economic austerity measures (especially by the high interest rates) did not recover during 1981.

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[151] The negative terms of trade effect resulting from the oil price rise has been estimated at 3.2 per cent of GDP in 1974 and 2.7 per cent in 1980.

[152] The volume of investment in machinery declined at a compound annual rate of 2.5 per cent in the period 1974–1979 and increased by 7 per cent in both 1980 and 1981.

[153] See article by a group of economists in *El Pais*, 22 November 1981.

Turkish agriculture, accounting for a quarter of GDP and employing half of the work force, is still very sensitive to weather conditions in spite of the increase in the area under irrigation and the introduction of some modern techniques. Thus despite the relatively increased use of fertilizers and pesticides during 1981, low rainfall affected production and the output of most crops (except grains) has not shown much growth for the fifth successive year.

Notwithstanding the lack of complete statistical data at the time of this *Survey's* preparation, it is evident that the national accounts aggregates should show considerable improvement in 1981. Current borrowing from abroad, which started to grow in 1974 and reached 8 per cent of GNP in 1977, declined sharply in 1978 and 1979 (table 2.1.1). The current account deficit climbed again to 7.3 per cent of GNP in 1980 but, thanks to better export performance and growth in invisible receipts, fell in 1981 in spite of the high demand for imported goods and services.

Total domestic demand, which had remained for three years below its 1977 level, recovered in 1981. Domestic demand for industrial products was stagnant during the first eight month period of 1981, and stocks of most finished industrial goods increased (except for those for which export demand was strong). Despite the credit squeeze total investment increased, and fixed capital formation, which started to decline in 1977 and fell sharply from 1978 to 1980, notably in the private sector, improved both in the public and private sectors.

The growth of domestic consumption was tightly checked by fiscal and monetary policies. Private consumption recovered but its 2 per cent growth rate is still less than population growth; public consumption, which was the most active component of domestic demand in 1980, decelerated in 1981 to nearly half of its 1980 rate. It should be noted that all these data are provisional and the composition of expenditure may differ considerably when the final results for 1981 and revised figures for previous years are available.

### *Trade and payments*

Trade data for *Greece* on a customs basis cover only the first quarter of 1981, but cash payments statistics are available for the period January to October (although they are distorted by leads and lags). These show a 6 per cent increase in the current dollar value of imports (with a moderate volume decline) and an increase of 14 per cent in exports (with a virtual stagnation in volume). Inputs of refined petrol products, textiles, aluminium and cement increased more than average. Following the pattern of domestic demand, imports of capital goods and industrial raw materials declined but imports of manufactured consumer goods continued to increase. The net trade deficit for fuel increased by $200 million to $2.5 billion (January–October). Assuming no further increase in the total trade deficit beyond that of 1980 ($6.8 million), the current account deficit is expected to deteriorate marginally (by less than $0.2 billion).

According to a recent forecast[154] the current account deficit of *Portugal* in 1981 could be around $2 billion compared with less than $1.1 billion in 1980, and a plan target of $1.7 billion. In relation to GDP this deterioration represents an increase from 4.3 per cent to 8.8 per cent.

In current dollars the deficit on goods and services is expected to be $4.4 billion (against $3.4 billion in 1980) due to a decline in exports of 4 per cent and an increase in imports of 7 per cent. The net deficit on income from capital might grow by $250 million due to increased servicing of foreign debt. Net private transfers (which account for 14 per cent of GDP) increased in dollar terms by 10 per cent (or $300 million). Data for the first half of the year are generally in line with this forecast, although it might turn out to be somewhat optimistic as the deterioration in the trade balance during the first half (on a *f.o.b.–f.o.b.* basis) was already over $0.8 billion and the terms of trade had deteriorated (relative to the same period in 1980) by 10 per cent. The main influence in the deterioration of the terms of trade was the higher price of oil, but Portugal was also particularly affected by the rise in the international value of the US dollar since the United States is its main foreign supplier.

Portuguese trade data cover only the first half of 1981; during this period imports, in volume, increased by 5 per cent and exports declined by 10 per cent. Portugal continued to lose market shares in the industrial countries (United States, Italy, the Netherlands, Federal Republic of Germany) and part of this loss can be traced to the EEC: quotas on textile imports from Portugal[155] had already been exceeded (in advance) in 1979 and 1980. Part of the loss in industrial markets was made good by wider geographical diversification of exports and the re-establishment of traditional trade flows (such as the 148 per cent increase in exports in 1981 to Angola). This underlines the need for policies to widen the geographical diversification of exports, particularly to such rapidly expanding markets as those of the Middle East oil exporting countries where Portugal is under-represented.

The dock strikes of 1980 in *Spain* and the abnormal trade data of December 1980 make it somewhat hazardous to make estimates for the year, even on the basis of the eleven months presently available. Customs-based data show an increase in import value (in pesetas) of 23 per cent corresponding to a decline in dollars of 5 per cent, and an increase in exports of 30 per cent in pesetas (corresponding to a 0.4 per cent decline in dollars). The lack of reliable price indices makes it difficult to estimate volume changes[156] but some recent official estimates put the volume increase of exports at about 6 per cent while imports declined by roughly 4 per cent.

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[154] Ministerio das Finances e do Plano: *As grandes opçôes do Plano para 1982*, Lisbon, 1981.

[155] Textiles account for about 30 per cent of Portuguese exports to the EEC.

Imports of energy products increased in value (in pesetas) by 39 per cent (but remained virtually stagnant in volume). If these products (for which the import bill increased by roughly $1 billion in 1981) are excluded, the increase in the peseta value of imports is 12.5 per cent which represents a large decrease in volume.[157] There were significant changes in the geographical pattern of Spanish trade in 1981, particularly for exports, which were very much influenced by the evolution of exchange rates. In 1981 the peseta depreciated, on average, by about 13 per cent, but the depreciation against the dollar was nearly 30 per cent. Spanish exports reacted very rapidly to these changes, contracting to the advanced industrial countries in Europe, particularly the EEC, and expanding to the United States (by 25 per cent in current dollars), Latin America, the oil-exporting countries and the CMEA countries (particularly the German Democratic Republic and the Soviet Union).

The first estimates of the current balance of payments in 1981, on a transactions basis, were published by the Ministry of Trade in December 1981. According to these the trade deficit should fall due to a decrease in the dollar value of (*f.o.b.*) imports of 3 per cent and virtual stagnation in the dollar value of exports. The improvement in the merchandise balance, however, is more than offset by a deterioration of the balance of services and transfers. Thus, the current account balance could deteriorate by over $860 million mostly as a result of a fall in net tourist receipts (by 2 per cent) and an increase of 42 per cent in net payments of investment income (due to rapidly increasing foreign debt and high interest rates). The inflow of net transfers decreased by 13 per cent mainly because of the fall in emigrant workers' remittances and the depreciation of west European currencies in relation to the unit of account used.

Official estimates, based on 12 months' data, show that the current account deficit of *Turkey* decreased more than one third in 1981 and that the (*c.i.f.–f.o.b.*) trade deficit fell by 16 per cent.

In recent years economic policy has tried to limit domestic demand and boost exports. However, until 1981 exports fell short of the programme objectives. In 1981 exports in dollars increased by 62 per cent, that is, 34 per cent more than the programme objective, reaching an historically high $4.7 billion. The cover ratio (of exports to imports) increased from 37 per cent in 1980 to 53 per cent in 1981, despite a 13 per cent increase in the value of imports. There are several reasons for this large rise in exports: exporters were given better credit facilities and their supply needs were given priority in imports; exports were promoted by daily exchange rate parity adjustments, a policy adopted in May 1981 and which on a cumulative basis has decreased the value of the Turkish lira by 33 per cent over the year; furthermore the brisk demand of Middle East countries created additional outlets for Turkish exports. There was also an important change in the commodity composition of exports in 1981 due to a growth of around 120 per cent of industrial exports. The geographical distribution of exports has also been changing with the weight of exports to the Middle East and North Africa increasing. According to the annual data for 1980 and 1981, the share of these latter countries in total exports was 22 per cent in 1980 and 40 per cent in 1981. On the other hand, the OECD and EEC countries accounted respectively for 58 and 43 per cent of total exports in 1980 and for 48 and 32 per cent in 1981. Exports to CMEA countries decreased considerably in 1981 after a substantial increase in 1980. While these changes in exports were affected to a large extent by the supply needs of the Turkish engineering firms carrying out public works contracts in the Middle East and North Africa, Turkish exports to the EEC countries were affected by high tariffs and quota regulations.[158]

The dollar value of imports in 1981 increased more slowly than in 1980, by 13 per cent as against 56 per cent in 1980. The oil import bill was around 43 per cent of the total dollar value of imports in spite of a significant decline in volume. Oil imports and foreign debt repayments (interest and principal) absorbed three quarters of the foreign exchange resources obtained from total commodity exports and workers' remittances in 1981. The rise in imports in 1981 was mainly due to an increase in imports of industrial products, especially machinery and equipment, by around 50 per cent (compared with a 7 per cent decrease in 1980).

With booming exports and a slower growth of imports during 1981, the foreign trade deficit decreased by 16 per cent compared with 1980 when the deficit increased by 78 per cent.

Turkey's traditionally favourable balance on invisible transactions also improved substantially in 1981, notably due to workers' remittances which increased more than 20 per cent due to high interest rates on deposits and the daily parity readjustments of the lira. Net income from tourism also increased by 31 per cent even though its level ($277 million) is still very low compared with other south European countries. As a result of increased borrowing abroad and rising interest rates, interest payments on foreign debt rose substantially: according to provisional figures, Turkey paid $1,193 million in interest in 1981 which is almost 79 per cent higher than in 1980. Interest payments were almost 68 per cent of total payments on foreign debt in 1981.

According to the same provisional data, the overall balance-of-payments deficit in 1981 was smaller than in 1980 in spite of a 52 per cent decline in the balance of capital movements (which decreased due to shrinking programme credits from $1,811 million in 1980 to $840 million in 1981). In 1981 Turkey borrowed $1,482 million in project and programme credits and $335 million from the IMF compared with $2,358 million and $461 million respectively in 1980.

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[156] The Bank of Spain considers the available price indices to be unreliable. See *Boletin Económico*, December 1981. In recent years price indices for trade have been calculated on base of unit values. In 1981 the commodity classification was changed and this has hampered the elaboration of the indices, as previously, at the six-digit level.

[157] Crude oil imports in volume actually declined by over 3 per cent (January–November 1981/80).

[158] For example, in December the EEC levied a 16 per cent tax on Turkish cotton yarn exports to the EEC.

### *Employment and wages*

In *Greece,* although the slowdown in output growth brought about a deterioration in the labour market, open unemployment remains at a relatively low level. The unemployment rate in the non-agricultural sector is estimated at 2.9 per cent for 1981 compared with 2.5 per cent for 1980 and 1.8 per cent for 1979. It is now recognized officially, however, that the unemployment figures do not reflect adequately the unemployment situation.

Employment in industry (number of persons employed) increased by 1.5 per cent in 1981 compared with an increase of 1.1 per cent in 1980 and 2.7 per cent in 1979. However, at the same time hours worked per person employed declined by 3.3 per cent, whereas they had remained constant in 1980 following a period (1975–1979) when they had increased by more than 2 per cent a year.

As had also been the case in 1980, the remuneration of labour in real terms declined by 2.4 per cent in 1981 in the non-agricultural sector. The decline was more pronounced in the weekly remuneration in industry (3.6 per cent), where average hours of work were reduced. The increase in labour costs per unit of output in 1981 was about the same as in 1980 and is estimated at 25 per cent for industry and 23 per cent for the non-agricultural sectors in general.

In *Portugal* the employment situation improved during the second half of 1979 and the first half of 1980 but deteriorated again in 1981. According to the permanent employment enquiry, the unemployment rate rose from 7.6 per cent of the labour force in the first half of 1980 to 8.8 per cent in the same period of 1981. Employment increased by 2.7 per cent (mainly in construction and services) and unemployment by 20.7 per cent. The overall activity rate increased slightly (from 44.9 to 46.2 per cent) as a result of higher female participation rates.

Industrial salaries in the first half of 1981 increased from 21 to 23 per cent. The deceleration in the rate of price increases in 1980 has seemingly not been reflected in a subsequent deceleration of wage increases. The minimum salary was raised in October by 18.9 per cent.

During the twelve months from September 1981, employment in *Spain* decreased by nearly 3 per cent and unemployment increased by over 2.5 per cent to represent 14.7 per cent of the active population. The decline of employment decelerated during the third quarter but unemployment continued to increase rapidly throughout the year: this was due not only to demographic factors but also to a minor increase in activity rates. The decline of employment is due mainly to the steady decline of the industrial and agricultural sectors, while employment increased in both services and construction during the third quarter of 1981. Real wages have increased moderately up to mid-1981. Wage rates per hour worked increased in the twelve months to July 1981 by 19.6 per cent (the cost of living rose by 14.4 per cent) and monthly earnings rose by 17.4 per cent. Data on collective contracts (up to November 1981) show a more moderate increase in wage bill settlements (of 12 per cent) compared with an increase of 14.3 per cent in the cost of living index, which shows that the national employment agreement is having the expected result on wage restraint.

There are no readily available and internationally comparable registered unemployment figures in Turkey. However, there are official estimates of surplus labour and statistics referring to wage and salary earners in big urban centres. According to official estimates, total surplus labour in 1981 was about 3 million persons of which disguised unemployment in agriculture accounts for 700,000. Thus, excluding the latter, 12.9 per cent (2.3 million people) of the civilian labour force is estimated to be unemployed; if disguised unemployment in agriculture is included, the overall unemployment rate is 16.9 per cent.

In addition to the fast population growth, unemployment is further aggravated by the fact that the emigration of workers to western Europe is no longer possible and because of declining employment in the public sector due to new employment policies in the state economic enterprises. Since 1974 there has been increased emigration of Turkish workers to the Middle East and Libya, but not on such a scale as to be considered as a solution to the employment problem. Given its size and its potential growth, this problem can only be solved by fast economic growth inside the country.

According to official data, in 1981 the real wages of workers covered by the Social Security Institution increased by 7.5 per cent and of government employees by between 6 and 12 per cent.

### *Prices*

Consumer prices in *Greece* during 1981 rose at about the same rate as in 1980 (25 per cent). The relatively higher price increases were for foodstuffs, housing, other goods and services, and educational and recreational expenses.

A similar situation prevailed in respect of wholesale prices, the average increase being 27 per cent in 1981 compared with 28 per cent in 1980. The GDP deflator should, however, show a somewhat larger increase than in 1980 due to a deterioration in the terms of trade.

In *Portugal* price increases accelerated in 1980. The latest figures (referring to November 1981) show a yearly increase in consumer prices of 19 per cent. In spite of a bad harvest and relaxation of price controls in April 1981, food prices have increased somewhat less rapidly than the average, but more than in 1980. Clothing and footwear have been the most rapidly rising components of the index. Average import prices increased rapidly (28 per cent) during the first half of the year and, together with the deterioration in agricultual output, have been the main cause of the worsening of inflation during the year. The worsening of inflation is also reflected in the rise in the GDP deflator (table 2.1.1) which will probably exceed the programme target (16 per cent) by about two points.

In *Spain* the deceleration of consumer prices which started during the second half of 1980 continued (except for a brief period in the spring) throughout 1981. In December 1981 the index showed an annual increase of 14.2 per cent, not far from the 13 per cent target set out in the 1981 budget. The average increase for the year should be about 14.8 per cent compared with 15.5 per cent in 1980. The increase in the general price level as reflected in the GNP deflator, however, may show a deterioration of perhaps 1 point due to the worsening of the terms of trade.

In *Turkey* the inflation rate reached unprecedented levels in 1980. The acceleration in the rate of price increases to three-digit levels was largely due to the rise in oil prices, a 90 per cent devaluation of the lira, and the adjustment of administered prices as subsidies for state economic enterprises were removed in accordance with the Stabilization Programme. The slowdown of inflation, which started during the second half of 1980, continued in 1981 and in the twelve months to November consumer prices rose by 32.2 per cent. Wholesale prices rose 29.6 per cent in the twelve months to October. The main objective of the 1981 programme was to reduce the inflation rate, as measured by GDP deflator, to 40 per cent by restricting credit and monetary expansion. According to official estimates this target has been reached.

### *Policies and prospects*

In *Greece* the recession began to be felt during the second half of 1980 as industrial production decelerated and became more pronounced in 1981 when public consumption became the only dynamic element of total demand and services the only sector where output was expanding. The most noteworthy feature of economic policy in 1981 has been the rapid increase in the public sector deficit from 11.4 per cent of GDP in 1980 to about 18 per cent in 1981,[159] which has had strong inflationary effects. However, due to a rapid decline in imports the current deficit has increased relatively moderately. The elections of October 1981 have brought about a change in government and a new orientation of general economic policies. An extensive array of measures has already been announced relating to incomes policy, assistance to small- and medium-sized enterprises, investment incentives, credit policy, housing, taxation, and the extension of the public sector.

The stated aim of economic policy is to stimulate economic activity and to redistribute income. Thus the general direction of specific policy measures has been to stimulate domestic demand and, in particular, the demand for domestically produced goods through income redistribution in favour of the lower income groups. At the same time the productive capacity of small and medium enterprises is to be expanded so as to enable them to respond to the increased demand. The direct involvement of the state in productive activity is to be enlarged through the undertaking of major investments in 1982, in particular in basic metallurgy and petrochemicals.

Incomes policy measures include the automatic adjustment of wages and salaries to the consumer price index and the annual adjustment of the income tax scales. The adjustment of wages and salaries will range from 100 per cent of the rate of price increases for those with lower incomes (monthly salaries up to 35,000 Drs) to zero for those with salaries above 80,000 Drs. The adjustment to be made at four-month intervals starting 1 May 1982 follows the salary increases already implemented in January 1982 (these increases range from 5,000 Drs for salaries up to 20,000 Drs to 2,000 Drs for salaries up to 50,000 Drs and no increase for salaries above 52,000 Drs). The adjustment of income scales is to be implemented in 1982.

Monetary and fiscal policies have not yet been announced. It is expected however, that there will not be much restraint on the volume of credit, as the expansion of productive activity is crucial to the Government's strategy. Inflation is to be fought through measures aimed at changing the structure of production rather than by credit rationing: measures already announced point in this direction. At the same time closer credit control will be introduced in order to divert credit from speculative activity and consumption to productive activities.

It is particularly difficult to forecast the development of the Greek economy in 1982, not only because the budget is not yet available[160] and monetary and fiscal policy not yet defined, but also because the impact of certain important policy measures, particularly those involving institutional changes, will depend on the effectiveness with which they can be applied. The official aim is to increase GNP by 2.5 per cent and lower inflation to 20 per cent.

The deterioration of economic conditions in *Portugal* since the end of 1980 is reflected in successive revisions to official forecasts. The 1981 Budget was based on targets set in August 1980 which envisaged for 1981 GDP growth of 4.8 per cent, an increase of fixed investments of 10 per cent, a current balance-of-payments deficit of $1.3 billion, growth in the volume of exports of goods and services of 7 per cent and a moderate increase (80,000) in total employment. The collapse of agricultural production, the dramatic deterioration in the terms of trade (10 per cent in the first half of 1981) and the resulting worsening of the current balance deficit (from $861 million in the first half of 1980 to nearly twice that amount in 1981), the acceleration of inflationary pressures, and the deterioration of the public sector deficit, all pointed to the need for a reassessment of the macro-economic forecasts and for a change in economic policy. As compared with the preliminary estimates of the actual results in table 2.1.1, the second scenario elaborated in June 1981 still seems optimistic as GDP growth for 1981 was forecast at 2.9 per cent, fixed capital formation at 8 per cent, export growth at 4.8 per cent, the current balance deficit at $1.7 billion, and inflation at 16 per cent. In retrospect, it would seem that up to mid-1981 economic policies remained expansionary which was somewhat out of tune with the deteriorating external and internal economic circumstances. In the first half of the year there was an increase in the budget deficit of 37 per cent (as against a planned increase for the full year of 24 per cent), due mostly to an increase of 41 per cent in state expenditure on goods and services (in current prices). Liquidity (M2) was also growing fast (by 37 per cent), mostly as a result of a rapid increase in time deposits. Total domestic credit was also expanding in the first half of 1981 at a faster pace than in 1980 (30 and 28 per cent respectively), and credit to enterprises and households rose by 37 per cent in the first half of 1981 compared with 32 per cent in 1980: the latter was being increasingly used to finance expenditure on consumer durables rather than productive investments.

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[159] Estimates taken from *Epiloghi*, December 1981.

[160] The 1982 budget is expected to be submitted at the end of February 1982.

It was, however, the evolution of the foreign sector that provoked the shift towards restrictive policies in July. The main reason for this change was not so much the size of the external deficit (running at a yearly rate of $3 billion), although that was very large, as the way in which it was being financed by costly borrowing, more than half of which consisted of short-term debt. During the first half of 1981 available liquid foreign assets fell less than in the same period of 1980 (by $137 versus $183 million) but the deficit on capital account rose from $432 million in the first half of 1980 to $1,312 million in 1981, of which $769 million were short-term capital loans. In this context, rather than trying to restore export price competitiveness and external equilibrium by accelerating the depreciation of the exchange rate adjustment (fixed presently at 0.5 per cent per month under a crawling peg regime),[161] the Portuguese authorities adopted a more stringent set of monetary and fiscal policies designed to restrain domestic demand and to act directly on wage costs and long-run factor productivity.

The July measures included an increase in interest rates[162] and a rise in the legal reserve ratio of commercial banks aimed mainly at draining part of the increase in liquidity created by the public sector deficit. Other new measures include the requirement of the authorization of the Bank of Portugal for any capital borrowing abroad, and some legal measures taken in August aimed at a reduction of public consumption mainly through the postponement of some current transfer outlays in the 1981 budget.

The more restrictive stance of economic policies was reinforced by the 1982 budget, the introduction of a wage ceiling—two points below the expected rate of price increase—and by the loosening of price controls.

The budget for 1982 foresees an increase in the State deficit, in money terms, of 4.8 per cent, which corresponds to a decline in its share of GDP from 9.9 per cent in 1981 to 8.6 per cent in 1982. The current deficit is expected to decrease by 11 per cent due to a faster increase of current receipts (35 per cent) than of current expenditure (26 per cent).[163] The increase in receipts is planned to come from higher direct and indirect taxes. Capital expenditure by the State should increase some 18 per cent (but investments under the programme increase by 25.3 per cent) and capital receipts should decline by 1 per cent. The greatest part of the 150 billion escudos net borrowing requirement of the central administration will be covered (to the extent of 101 billion) by advances of the Bank of Portugal. Although such advances still represent some 5.8 per cent of projected GDP their share should decrease in 1982 as compared with 1981 when it was 6.4 per cent. As compared with the actual evolution of the Portuguese economy in 1981, the main changes foreseen in the macro-economic forecast of the Ministry of Finance and of the plan in late 1981 are the acceleration of total GDP growth to about twice the rate achieved in 1981 (3 per cent versus 1.6) and a massive transfer of domestic resources abroad since net current borrowing from abroad, in current prices, is expected to pass from 19.3 per cent of GDP in 1981 to 14 per cent in 1982. A dramatic swing in the goods and services balance is to be achieved by a decrease in imports of 3 per cent and an increase in exports by 7.5 per cent. All major sectors of domestic demand are expected to decelerate but the target growth of fixed investment is not significantly below that achieved in 1981.

At the time of writing (February 1982) it is difficult to judge to what extent present economic policies can achieve these targets, particularly since the flow of statistical information is relatively slow and as yet insufficient to reveal how far the restrictive measures taken during the summer of 1981 have already had an effect. Some recent trade data suggest that part of the apparent deterioration of the trade balance during the first half of 1981 was caused by speculative fears of devaluation since leads were occurring on import payments and lags on export receipts. Moreover, it should be remembered that much of the deterioration of the trade balance during 1981 was due to greater agricultural and energy imports resulting from extremely exceptional weather circumstances. But once that has been said, it should be remembered that the structural weaknesses of the Portuguese economy need a long period to be redressed. The excessive growth and relative inefficiency of the public sector have been frequently criticized, but other factors such as the low technological level of both agriculture and industry, the low domestic savings ratio and a general lack of entrepreneural capacity are at least as important. Policy makers in Portugal stress that action to remove these weaknesses is of paramount importance, but the main question at the onset of 1982 is whether the structural policies, which have been somewhat slow in being introduced,[164] will start to produce favourable results soon enough to avoid the introduction of more stringent policies in 1982.

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[161] Although the effective exchange rate decreased only by 4.4 per cent during the first half of 1981, the adjustment was far from uniform; up to September 1981 the escudo depreciated by 18 per cent against the US dollar, by 9 per cent against SDRs and remained virtually unchanged against the ECU.

[162] The discount rate passed from 18 to 20.5 per cent.

[163] The main increase in current expenditure is due to interest payments on the rapidly rising public debt. These payments plus amortization represented 2.1 per cent of GDP in 1977, 6.9 per cent in 1981 and an estimated 7.7 per cent in 1982.

It is obvious that in the short run the main problem is the improvement of the current balance which has deteriorated mainly because of a fall in the terms of trade by some 15 per cent since 1978. The 1977 policies restored external equilibrium in a very short time, but they included a large adjustment in the foreign exchange rate. The Portuguese authorities explicitly assume an early improvement of world trade in 1982 as a precondition for Portuguese export growth. Recent forecasts, however, suggest that a world trade recovery might only take place towards the second half of 1982. If this is so, the understandable reluctance of Portuguese policy makers to let the escudo depreciate further might be unfavourable in the longer run if a much larger adjustment is required (as in 1977) as a part of a wider policy change.

According to an official forecast presented with the budget at the end of September 1980, GDP growth in *Spain* in 1981 was expected to be 2.5 per cent and inflation not more than 13.5 per cent. Exports and gross fixed capital formation would be the main sources of the faster growth but the rate of growth of private consumption would also increase. The balance of payments current deficit was forecast at $5 billion, the growth of total liquidity (M3) at around 17 per cent and credit to the private sector at 18 per cent. The Central Government deficit was put at 361 billion pesetas or roughly 2 per cent of GDP.

The degree to which these targets have been met has been variable. The main successes have been in the fight against inflation[165] and the maintenance of a current balance within limits which have not been a constraint on growth; on the other hand, the Budget deficit reached 3 per cent of GDP (and not 2 per cent as expected) and the percentage increases to about 4 per cent if the whole public sector is considered. GDP growth was only 1 per cent and unemployment increased rapidly.

The success in keeping the current account deficit within manageable bounds is (apart from the decrease in the import dependence on foreign energy supplies achieved under the National Energy Programme) mostly the result of the deceleration in the growth of domestic demand. It should be added, however, that the most important effects of the policies followed during 1981 will not be seen in the short term (except in the energy sector) because they are directed to the gradual correction of certain structural weaknesses of the economy. Among the reforms is the extension of the new law on the restructuring of crisis sectors (June 1981)[166] to new sectors (textiles, large house appliances, car industry components), the restructuring of financial institutions, the liberalization of financial markets, etc. The main success of economic policy in 1981, however, has been the so-called ANE (National Employment Agreement) signed by the State, and the major trade union and employers' organizations. The agreement is that money wages will grow less than the actual increase in prices for a certain time, while the government will aim to stabilize the employment level (in 1982) with a variety of measures including an increase in the state contribution to social security, provision for early retirement, and the creation of special funds to fight unemployment in general and youth unemployment in particular. The agreement has aleady had a moderating effect on wage claims during the second half of 1981 but its real test will come in 1982 since the employment target implies the creation of 350,000 new jobs to compensate for the predicted decline in employment.

Economic policy in 1981 was also successful in maintaining a positive growth of exports and of investment, mainly of investment in machinery. Efforts to activate the house-building sector have not been very successful and the National Housing Plan targets will not be reached. In the field of public finance there has been some success in that, according to partial data, capital expenditure has increased considerably faster than current, and the financing of the State deficit has been achieved with a proportional lower resort to Central Bank advances (due to the introduction of short-term treasury bills) although those still represented some 2 per cent of GDP in 1981. The policies of structural reform will be continued in 1982 although the medium-term policies as defined in the 1982 budget mostly represent a reinforcement of the moderately expansive fiscal and credit policies followed in 1981.

The moderation in the growth of wage costs under the ANE[167] gives sufficient leeway for the introduction of a more expansive budgetary policy in order to sustain employment and activity. This implies a considerably greater deficit, of nearly 700 billion pesetas or 3.5 per cent of GDP, with an increasing share of the financing being taken by short-term debt. Total receipts should increase by 21 per cent and expenditure by 27 per cent but, unlike 1981, capital expenditure is expected to expand somewhat less than current, due to the very fast growth of current transfers and interest payments on the public debt.

Monetary policies are expected to remain roughly unchanged (the target growth of M3 being 15 per cent) which, if the forecast deceleration of inflation

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[164] An example is the energy field where energy saving and conservation incentives have been changed already several times, while the elaboration of a general energy programme has only started recently.

[165] M3 growth up to December 1981 remained 1 point below the target (16.5 per cent) and the increase of credit to the private sector should not exceed 15 per cent for the year as a whole.

[166] The law sets out the machinery for reaching tripartite agreements between the administration, trade unions and employers' organizations in which certain targets are defined for production, productivity and profitability in exchange for state subsidies, fiscal advantages, special credits and subsidies to labour unions for early retirement benefits, etc.

[167] The wage bill is expected to increase only by 10.5 per cent in 1982.

takes place, implies a minor relaxation of policy. Credit to the private sector is expected to increase by 18 per cent, which is about 3 percentage points more than GDP at current prices. As a result of these policies real GDP is expected to expand by 3 per cent and domestic demand by 2 per cent. The most dynamic segments of demand should be public fixed investment (plus 10 per cent) and foreign demand (6.5 per cent). It is expected that the increased transfers of the public sector should more than offset the decline in disposable income implicit in the ANE targets and that private consumption should expand slightly (0.7 per cent).

The economic targets published by the government have been criticized recently as being too optimistic. The latest indicators on industrial production and demand provoke a certain pessimism in respect to 1982 and in November 1980 the monthly industrial enquiry showed a further fall in the stock of orders. Spain's increasing integration into the west European economy implies that economic prospects will depend to a great extent on the speed and strength of the recovery in other countries of the area as well as on the restoration of a higher level of investment. The latter probably depends mostly on confidence as it seems that there is no lack of finance.

As was mentioned above, the incomes policy incorporated in the ANE will facilitate the implementation of a more expansionist fiscal policy in 1982 but, as the Minister of Economics has recently emphasized, "nobody can expect that wages will forever be growing less than the cost of living". Thus, the ANE is an exceptional circumstance which will not be easily repeated unless investment recovers and there is a sufficient gain in productivity to allow a non-inflationary increase in real disposable income. The main doubt arises in connection with the speed of the reforms of the industry. The Spanish economy has shown in certain cases great adaptability to cost and price changes when adequate policies have been followed,[168] but it is arguable whether investment and productivity will recover sufficiently rapidly to take over after the favourable effects (on costs and prices) of the present incomes policy are exhausted. If the expected recovery of economic activity in the western market economies during the second half of 1982 materializes and is sufficiently vigorous to boost Spanish exports,[169] the main targets contained in the budget would seem feasible. Foreign demand is thus of strategic importance as there is little leeway for increasing the structural current balance-of-payments deficit and, as in the case of other relatively less advanced countries, its financing is particularly burdensome with the present high levels of interest rates. The present international context does not seem particularly favourable in this respect with no immediate prospect of a significant fall in the level of interest rates in the United States.

Recent economic performance and policies in *Turkey* were still influenced by developments between 1973 and 1977. Turkey was exceptional in that the 1973 increase in the price of oil was not passed on to the users. This policy implied a loss of revenue from indirect taxation, increasing government subsidies and widening budget deficits financed by inflationary means. The growth rate of the economy during this period stayed around 7 per cent but current borrowing from abroad increased rapidly (to 7–8 per cent of GDP in current prices) and much of the increase in foreign borrowing was short-term. By the end of 1977 Turkey faced a payments crisis which led to the re-negotiation of foreign debts and the signature of a stand-by agreement with the IMF in April 1978. The economic packages of 1978 and 1979 did not have much success: inflation accelerated, shortages of imported inputs increased, leading to lower capacity utilization in industry; external debt continued to grow and black markets, particularly for foreign exchange, developed. The second oil shock contributed to a worsening of all these conditions, particularly in 1980.

In January 1980 a Stabilization Programme was adopted which introduced stringent fiscal and monetary policies aimed at restricting domestic demand and promoting exports. Half a century of protectionism was abandoned and reliance was placed on the operation of market forces rather than on direct controls or Government intervention.[170] The short-term targets of the Programme have been fulfilled: during 1981 inflation was abating, export performance improved dramatically, the current account deficit fell and production started to recover. Moreover, one of the main causes of the growing budget deficits of recent years, namely transfer payments to state enterprises to cover their operational losses, seems to have been weakened as according to partial data state enterprises managed to make profits and increase their production.

The macro-economic targets of the 1982 programme assume that the present economic policy will remain unchanged in its main lines. The rate of growth of GDP (at 4.3 per cent) is expected to be about the same as that for 1981, but the inflation rate is expected to decline further to 25 per cent: this is still high but much lower than the 37 per cent increase of 1981 and the three-digit figure for 1980. The current balance is expected to improve by nearly $0.4 billion due to a considerable improvement in invisibles. It is expected that there will be a recovery in agriculture but a slight deceleration in the growth of industrial output.

Private and public consumption and gross fixed capital formation are expected to grow faster but total investments should decelerate. Final budget results for 1981 are not yet known but, up to November 1981, revenues increased by 80 per cent (due to the implementation of tax reforms in 1980): thus the consolidated budget[171] deficit which had been 134 billion lire (equivalent to 3 per cent of GDP) in 1980 should be much smaller in 1981. The consolidated budget for 1982 is expected to balance. Nonetheless, the central Government borrowing requirement is estimated at some 65 billion lire or 0.8 per cent of GDP and 80 per cent of the consolidated budget is to be financed by tax revenues.

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[168] The most recent example is the decline in the dependence on oil from 66 per cent of primary energy needs in 1981 to 58 in 1982.

[169] A recent econometric study of Spanish exports suggests that the response of exports to changes in world trade occurs with a lag of two to four quarters. See J. M. Bonilla Herrera: *Funciones de importacion y exportacion en la economia española*, Madrid, 1978. Export growth would thus continue to rely on markets outside western Europe until the end of 1982.

[170] The Programme is described in greater detail in the *Economic Survey of Europe in 1980.*

[171] That is, the budgets of the central Government and some autonomous bodies such as universities, waterworks, etc.

The fiscal and monetary policies of recent years have had a great measure of success in achieving a better balance of the public sector deficit and reversing inflationary expectations (as is shown by the fact that savings deposits more than doubled in the 12 months to October 1981). The main uncertainties in the official forecasts are the assumptions concerning the evolution of the foreign sector: exports are expected to increase by 24 per cent in dollar terms (after an increase of 62 per cent in 1981), invisible net receipts to increase by 20 per cent, and private capital inflows to be double their 1981 level. Debt servicing is projected to increase to $1.9 billion (compared to $1.7 billion in 1981). External debt remains very high and in September 1981 amounted to $20 billion, equivalent to more than 30 per cent of GNP. Concessional aid, which has been used in recent years to finance the foreign deficit, is expected to disappear after 1983, but even if the assumed aid and capital inflows materialize the growing import needs of the country may continue to put pressure on scarce foreign exchange resources. The success of Turkish policy in recent years in reinforcing trade and financial links with Middle East countries[172] may provide the country with much needed new sources of foreign finance, but in the long term domestic saving and export capacities are the only feasible basis for sustained growth.

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[172] Turkish public works firms increased their contracts in Middle East countries to a total of over $10 billion in 1981. Banks in these countries have recently expanded rapidly their syndicated loans to Turkey.

### (i) General trends

In Yugoslavia the upswing in the growth of output by some 7 to 8 per cent per year during 1977–1979 was followed in 1980 and 1981 by a drop in the growth rate to around 2 per cent (table 2.2.1).[173] Only a slight improvement in the growth of output is expected in 1982 and in 1983, but there should be a stronger improvement thereafter.

The basic factor that has dominated the present cycle is the *foreign balance of payments.* The first oil shock was quickly absorbed and the current account deficit was turned into a surplus in 1976. At the same time, total foreign debt was relatively small and the ratio of gross debt service to total exports was some 17 per cent in 1977. This situation permitted faster growth of domestic demand and output in the years that followed. This acceleration of output was welcome, because a massive return of Yugoslav workers from abroad threatened to raise sharply the pressures on the domestic labour market. In fact, between 1977 and 1979 all the returnees from abroad were absorbed, as well as the natural increase in the labour force and a certain number of migrants from agriculture. The rate of growth in the number of unemployed was gradually reduced, from some 16 per cent in 1976 to 3.7 per cent in 1979.

The second oil shock, however, accentuated the already mounting structural shortcomings of the Yugoslav economy and rising domestic demand provoked a sharp rise in the current account deficit, which reached some $3.6 billion in 1979. Foreign debt also rose considerably and the gross debt service ratio reached 21 per cent of export earnings.

In these circumstances restrictive policies were inevitable. Moreover, instead of borrowing abroad to maintain domestic consumption and investment, policy was changed so that the deterioration of the terms of trade was borne mostly by real wages and investment. At the same time, policies to stimulate exports were introduced, while imports were considerably reduced. Consequently, the current account deficit was gradually reduced to some $750 million in 1981. However, unemployment continued to increase, although at reduced rates.

The lower rates of growth of output and demand are expected to continue as long as the deficit on current account persists. In fact, in 1981 it was only 41 per cent of the $1.8 billion envisaged in the annual plan. Current policies aim to reduce it further, to some $500 million in 1982 and to eliminate it completely in 1983. In the meantime the debt service ratio ought to fall to well below 20 per cent. Output is planned to expand by 2.5 per cent in 1982, and perhaps slightly more in 1983. Thereafter it is hoped that the rate of growth will again surpass 4–5 per cent, for it is only at similar rates that the rise in unemployment can be checked.

### (ii) The growth of demand, output and supplies

After 1979, it was the expansion of domestic demand which lost momentum, while a fast rise in export volume was the sole factor that sustained the growth of output. Output was affected in particular by a considerable reduction in import volume, both of consumer and producer goods, including fuels and raw materials.

After 1979, the fall in *domestic demand* sharpened: a decline, in volume, of 1.5 per cent in 1980 was followed by a still larger fall in 1981; in the three years preceding 1980 it had grown by 6 to 12 per cent per year. The decline since 1980 affected all the components of demand, but the sharpest fall was in investment.

Nevertheless, the *social product* still continued to grow: 2.3 per cent in 1980 and 2.0 per cent in 1981, as compared with 7–8 per cent per year between 1977 and 1979. Output growth was due to a rise in the volume in exports of nearly 11 per cent in 1980 and more than 4 per cent in 1981. Together with a sharp decline in the volume of imports (some 10 per cent in 1980 and 9 per cent in 1981),[174] the foreign trade balance contributed positively (and increasingly so) to the demand for Yugoslav goods.

The pace of economic growth nevertheless slackened because of falling supplies of domestically

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[173] The data in this section are based mainly on *Saopštenje* (Communiqué) of the Federal Statistical Office, No. 339, 30 December 1981 (in Serbo-Croatian); *Godisnji izvestaj,* 1981, (Annual Report) of National Bank of Yugoslavia (in Serbo-Croatian, but also available in English); *Indeks,* a monthly review of economic statistics published by the Federal Statistical Office (in Serbo-Croatian); and in some cases on direct communication between the institutions mentioned and the ECE secretariat.

[174] However, at the beginning of February 1982, A. Zmijarvić, Deputy Director General of the Federal Bureau of Social Planning, reported (*Politika,* 2 February 1982, p. 5) that in 1981 Yugoslav exports rose by 11 per cent while imports declined by 5 per cent (in volume terms). These figures, however, could not be taken into account here, as a detailed breakdown was not available at the time of writing.

TABLE 2.2.1

**Yugoslavia: Volume growth of demand and output**

| | *1979 billion current dinars* | *Percentage share* | *Annual percentage change at constant 1972 prices* | | | | |
|---|---|---|---|---|---|---|---|
| | | | *1977* | *1978* | *1979* | *1980* | *1981* |
| Final domestic demand | 1 180.9 | 92.0 | 7.9 | 8.1 | 6.0 | −1.6 | −4.9 |
| Private consumption | 622.4 | 48.5 | 7.0 | 7.0 | 5.6 | 0.7 | −1.2 |
| Collective consumption | 110.9 | 8.6 | 7.4 | 6.5 | 4.5 | −1.0 | −4.8 |
| Gross fixed investment | 447.6 | 34.9 | 9.5 | 10.5 | 7.0 | −5.0 | −10.0 |
| Total domestic demand | 1 283.9 | 100.0 | 12.2 | 6.4 | 9.0 | −1.5 | .. |
| Addition to stocks and errors | 103.0 | 8.0 | 4.9 | −1.2 | 3.8 | −0.8 | .. |
| Foreign balance (goods and services) | −118.5 | | −4.6 | 0.1 | −2.6 | 4.0 | 9.0 |
| Social product | 1 165.8 | | 8.0 | 6.9 | 7.0 | 2.3 | 2.0 |
| Agriculture | 139.4 | | 4.8 | −6.4 | 5.7 | 0.8 | 1.4 |
| Industry | 417.7 | | 9.4 | 8.7 | 7.9 | 4.2 | 4.0 |
| Construction | 128.7 | | 10.0 | 12.8 | 10.0 | 0.0 | −4.0 |
| Industrial output per worker | | | 5.7 | 5.3 | 4.2 | 1.9 | 1.5 |

*Source:* National statistics.

produced and imported inputs. The weight of imports is especially high in the Yugoslav economy: they account for some 30 per cent of GNP and for a still higher proportion of inputs to industry and of capital goods. In fact, the control of imports is the most effective instrument in the hand of the government for reducing the growth of output. Instruments for demand management in Yugoslavia are much weaker and would not have been able to produce the required reduction of output. Current policy is to relate imports to the expansion of exports, while still eliminating the current account deficit. The longer run strategy is to expand exports and substitute imports wherever domestic costs are competitive (food, energy, non-ferrous metals, certain metal manufacturing). This policy may start to bear fruit in 1983 when import and domestic constraints on supply are expected to ease.

*Industrial output* grew by some 4 per cent in 1980 and in 1981, although this was half the rate in each of the preceding three years. Output was affected by shortages of both imported and domestically produced supplies of raw materials and other inputs. Domestic output of industrial inputs increased by 4 per cent in both 1980 and 1981 (7 to 10 per cent between 1977 and 1979), while imports (in volume) declined by 5.6 per cent in 1980 and 4.6 per cent in 1981. Exports of these products expanded by 4 per cent in 1980 and remained roughly unchanged in 1981. Above average growth rates of industrial output tended to be concentrated in those sectors where import substitution policies were most effective and most profitable (coal, oil and gas, steel, non-metallic minerals, engineering, paper, leather, artificial fibres).

*Agricultural output* remained more or less at the level of the previous year, which was unsatisfactory. The growth of this sector has been held back by a deficient price system and by inadequate supplies of inputs, although protection in foreign markets has also been a factor. The restrictive policies affected *construction* output most severely: in 1980 it remained unchanged but declined by 4 per cent in 1981; this contrasts with an expansion of 10–13 per cent per year between 1977 and 1979. The output of *transport services* was near to stagnation in 1981. One of the most deficient aspects of current Yugoslav economic policies is that such slack has arisen in the agricultural,[175] construction and transport sectors, all of which are little dependent on imports (less than 10 per cent both direct and indirect) and for which domestic demand for their output is highly unsatisfied (this applies particularly to housing construction).

*Capital formation* is the activity which is most dependent on imports (more than one third), and its volume fell by 5 per cent in 1980 and by another 8 per cent in 1981.[176] This contrasts sharply with a rise in volume of 7 to 10 per cent per year between 1977 and 1979. Domestic capital goods output continued to grow at a rate of 4 to 5 per cent in both 1980 and 1981, but this was less than half the rate recorded in the preceding three years. The volume of imported capital goods was reduced by some 23 per cent in both 1980 and 1981, whereas they had increased by 9 per cent in 1978–1979. At the same time, export volume hardly changed in 1980 and 1981. The reduction of imports of capital goods was the main reason for the fall in capital formation, but this policy was also reinforced by the reduction of bank credits to enterprises and severe limitations on the ability of enterprises to borrow abroad. Although the profits of enterprises increased somewhat, the general circumstances were not such as to encourage investment.

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[175] The uncultivated area of arable land increased from 424,000 hectares in 1959 to 670,000 hectares in 1979, the latter figure amounting to some 9 per cent of total arable land. At the same time the country imported significant quantities of agricultural products, including wheat and maize, for which it has an unquestionable comparative advantage.

[176] Preliminary figures (Federal Statistical Office, *Saopštenje*, No. 339, 30 December 1981, p. 10) reported 10 per cent; the figure of 8 per cent was given by the Federal Secretariat for Information in mid-January 1982—*Privredni pregled*, 15 January 1982, p. 2. The latter source reports that the number of investment projects was cut by 12 per cent. It was estimated, however, that this leaves the number of projects at some 25,500. This is rather high, especially if preliminary estimates of their value—some 1,373 billion dinars in 1981 ($US 31.6 billion at current exchange rate)—is taken into account, so that further substantial cuts are judged necessary.

The volume of *personal consumption* in 1980 remained at the level of the preceding year, but declined by more than 1 per cent in 1981. *Real wages* declined by 7.5 per cent in 1980 and by another 4.7 per cent in 1981 (as compared with increases of 2.9 per cent in 1977, 5.8 per cent in 1978 and 0.1 per cent in 1979). This development was due largely to policies to improve the terms of trade for farmers, in order to stimulate the expansion of agricultural output. Moreover, the capacity of enterprises to increase nominal wages was limited by monetary policies and pressure from the government to ensure that losses were financed from current income. On the *supply side*, domestic output of manufactured consumer goods grew at a rate of 4 per cent in both 1980 and 1981 (which was less than half the rate reported in preceding years), while output of agricultural products stagnated in 1980 and increased only slightly in 1981. Most of the adjustment of demand fell on imports of consumer goods, the volume of which fell by 8 per cent in 1980 and by another 12 per cent in 1981 (as against an average annual increase of 7.2 per cent in 1978 and 1979) while exports soared by 29 per cent in 1980 and 14 per cent in 1981 (as compared with 11 per cent in 1978 and 3 per cent in 1979).

The volume of *collective consumption* fell by 1 per cent in 1980 and by a further 5 per cent in 1981 (in each of the preceding three years it grew by 4.5 to 7.4 per cent). Current policy aims to continue to restrict the growth of this consumption because it is considered to have been excessive given the existing level of economic development of Yugoslavia.[177] *Budget expenditures* were reduced in real terms and the budget deficit continued to fall as a proportion of total expenditure. Moreover, budget deficits were increasingly financed by borrowing on the international capital market rather than from the National Bank.

### (iii) Costs, prices and money supply

It has become almost a rule in the Yugoslav economy that *inflation* accentuates when the pace of economic activity diminishes. This apparently paradoxical behaviour is due both to real factors, since a reduced growth rate inevitably leads to a rise in unit costs, and also to psychological factors: wage earners are more inclined to demand higher nominal wages when real wages are declining than in the opposite case. Psychological factors have been accentuated in recent years by the introduction of agreements between producers of certain categories of goods and different government bodies about future price adjustments. In spite of the fact that this method of pricing has been accepted in Yugoslavia for several years as a normal element in the process of price formation, the absence of clear and firm general criteria for price determination in practice has transformed it in many cases into a way of securing price increases whenever the parties to an agreement are strong enough to impose their decisions on other producers, consumers, or the general public.[178] The effect of this system on inflation is further accentuated by the fact that the parties to price agreements tend to adopt as their *minimum* increase the official expectation of the average rate of price increase in the following year. At the same time, the traditional instruments of demand management have been weakened and have become ineffectual in curbing inflationary pressures.

The *GNP price deflator*—a global indicator of inflation—increased by 30 per cent in 1980 and by another 40 per cent in 1981: in the preceding three years its rate of increase rose from 15 to 21 per cent (table 2.2.2). Factors of domestic origin were the main cause of this acceleration. The sharpest rise was for *agricultural producers' prices:* a 36 per cent increase in 1980 and a further 51 per cent in 1981; in the previous three years the rates of increase were 12, 11 and 26 per cent respectively. The recent increases reflect a deliberate attempt to improve the agricultural terms of trade, but shortages of certain products also had some influence. This, of course, implies a large rise in the unit costs of output for the economy as a whole, since the higher cost of foodstuffs has been increasing the pressure for higher wages and salaries. *Industrial prices* increased by 27 per cent in 1980 and 45 per cent in 1981, as compared with rates of 8 to 13 per cent in preceding years. *Wage cost* per unit of output outside agriculture increased by 22 per cent in 1980 and 36 per cent in 1981 (and by more than that in industry alone) and, given their large weight in total costs, accounted for most of the rise in producer prices. Certain taxes and contributions, levied on enterprises, were also rising, as part of the policy to increase the extent to which budgetary expenditures are matched by budgetary revenues, but the taxes and contributions linked proportionally to wages and salaries actually increased the inflationary pressures. Following the second oil "shock", *import prices* contributed less to inflationary pressure: they increased in 1979 by 15 per cent, and by another 19 per cent in 1980, but in 1981 they rose by 12 per cent.

It is questionable as to how much demand pressures have contributed to the rise in prices. The money supply has risen at very similar rates in each of the last four years: some 22 per cent (table 2.2.3).

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[177] In late September 1981, V. Žarković, a member of the Federal Presidency, pointed out that "the present volumes of general and collective consumption has unrealistically high dimensions. It is evident that in present conditions such a superstructure has become too heavy for the economy of the country. It is therefore necessary to re-examine and to revise many kinds of general and collective consumption, including some of the so-called acquired rights, as well as to diminish the rates of taxes and contributions". *Borba*, 28 September 1981, p. 3.

[178] In January 1981, The Co-ordinating Committee for Prices and Income Distribution of the Economic Chamber of Yugoslavia, argued that different mechanisms in the process of price formation were endangering the normal functioning of market forces, widening branch differences and accelerating the pace of inflation. *Privredni pregled*, 15 January 1982, p. 1.

TABLE 2.2.2

**Yugoslavia: Income, wages, costs and prices**

| | *Annual percentage change* | | | | |
|---|---|---|---|---|---|
| | *1977* | *1978* | *1979* | *1980* | *1981* |
| *Incomes* | | | | | |
| Total income | 22.5 | 26.6 | 27.7 | 28.4 | 34.5 |
| Disposable income | 22.2 | 26.7 | 27.5 | 28.5 | 34.6 |
| *of which:* | | | | | |
| Savings | 23.1 | 49.6 | 26.9 | 22.9 | 11.3 |
| Savings ratio (per cent) | 15.6 | 18.5 | 18.4 | 17.6 | 17.6 |
| *Wages, costs and prices* | | | | | |
| Real wages | 3.3 | 5.8 | 0.1 | −7.5 | −4.7 |
| Nominal wages | 18.8 | 20.9 | 20.5 | 20.5 | 34.0 |
| GNP price deflator | 14.8 | 15.0 | 20.6 | 30.4 | 40.2 |
| Wages costs per unit of output | 14.2 | 15.7 | 17.4 | 21.5 | 35.8 |
| Industrial producer prices | 9.5 | 8.4 | 13.2 | 27.3 | 44.6 |
| Agricultural producer prices | 12.1 | 11.4 | 25.6 | 35.6 | 50.5 |
| Export prices | 12.6 | 8.7 | 14.9 | 19.3 | 12.4 |
| Import prices | 13.9 | 4.6 | 19.3 | 19.6 | 12.0 |
| Retail prices | 13.3 | 13.4 | 21.9 | 30.4 | 46.9 |

*Source:* National statistics.

*Note:* In 1979 total income was 843.4 billion dinars, disposable income 821.0 billion and savings 150.8 billion dinars.

This compares with an expansion of GNP in current prices of 33 per cent in 1980 and 43 per cent in 1981, in both years a great deal faster than the rise in money supply. Thus monetary policy was restrictive, but other sources of inflationary pressure, not amenable to the control of monetary policy, were stronger.

### (iv) Employment

Despite the fact that in Yugoslavia there is still a considerable labour surplus and a continuing large migration of labour from agriculture to other sectors of the economy, government policies in 1980 and 1981 were obliged to shift priority from employment to the balance of payments. In fact, the growth of employment outside agriculture followed a similar trend to that of output and demand: high rates, of 4.3 to 4.6 per cent a year, during the 1977–1979 period were followed by declining rates of 3.3 per cent in 1980 and 2.5 per cent in 1981 (table 2.2.4). The significance of this deceleration can be judged by the fact that employment outside agriculture needs to grow by approximately 5 per cent a year if total unemployment is not to increase. This would require a growth rate of output of some 8 per cent per year which, in existing circumstances, is beyond reach. Thus, unemployment will continue to increase for some time to come. This is all the more likely because the agricultural labour force still accounts for more than 30 per cent of the total labour force.

However, the *growth of registered unemployment* has also slackened in recent years: from a rate of increase higher than 10 per cent in 1977 and 5 per cent in 1978, to 3.7 per cent in 1979, 3 per cent in 1980 and 2.7 per cent in 1981. Three factors have influenced this deceleration. At first, the return flow of Yugoslavs previously employed abroad, which was at its most intense in 1976 and 1977, almost ceased in subsequent years. Secondly, the pressure of migration from agriculture has also diminished: an outflow of about 2 per cent of agricultural employment was reported in 1977–1978 but of only around 1 per cent in 1980 and 1981. Principally, this was due to the lack of opportunities for employment elsewhere, but the conditions for farming also improved considerably with the increase in the agricultural terms of trade. Thirdly, the rate of increase of employment in the private sector continued to exceed 6 per cent. At the same time the number of *vacancies* continued to decline, mainly because of the sluggish pace of economic activity. It could be argued that the increase in unemployment would have been still smaller had the government's restrictive policy been more selective. A higher growth rate in construction and services—for which there exists both domestic capacity and unsatisfied needs—could have created more employment without worsening the balance of payments, since both sectors are labour intensive and little dependent on imports.

The outcome of these various movements in the labour market is a considerable level of unemployment in Yugoslavia. The number of job seekers in 1981 was some 800,000, equivalent to 7.2 per cent of the total labour force and almost 13 per cent of employment outside agriculture. However, the concept of job seekers in Yugoslavia is very loose, as it includes all those who already have a job but have registered for another; it also includes school leavers who have not yet graduated. It is estimated that genuine unemployment accounts for some 60 per cent of job seekers. If this is in fact the case, real unemployment in 1981 would have amounted to some 480,000, which is 4.5 per cent of the total labour force or nearly 8 per cent of the employment outside agriculture.

### (v) The balance of payments

As already noted, economic policies in 1980 and 1981 were concentrated on improving the balance of payments.[179] The emphasis of these policies was on reduction in the volume of domestic demand (and especially of demand which is import elastic) and the enlargement of the export surplus. In addition, exports were encouraged and imports suppressed by various monetary and fiscal instruments. A prominent role was played by devaluation of the

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[179] A determined will to pursue such a policy was underlined in mid-1981. Addressing the Parliament of Yugoslavia on 3 July 1981, P. Stambolić, Vice-President of the Federal Presidency, stated: "Should the present trends in foreign trade continue, we will conclude this year with a much greater deficit than last year. It must be clear to everyone today that we really cannot, nor do we wish to, increase our debts beyond the level planned in order to satisfy all development and other ambitions. The Federal Presidency is firmly of the opinion that these negative tendencies must be checked, that price increases must be kept within the planned framework and that the planned deficit in the balance of payments and in the volume of indebtedness abroad must not be exceeded." *Borba*, 4 July 1981, p. 4.

TABLE 2.2.3

**Yugoslavia: Money supply and consolidated budgets**

| | *Billion dinars* | | | | | |
|---|---|---|---|---|---|---|
| | | *Changes during period* | | | | |
| | *Amount end-1980* | *1977* | *1978* | *1979* | *1980* | *1981* |
| Money supply (Ml) | 461.7 | 44.6 | 64.2 | 59.8 | 86.5 | 102.0 |
| Bank credits | 1 576.7 | 139.9 | 189.3 | 230.7 | 280.1 | 345.0 |
| Foreign exchange transactions | −257.4 | −21.1 | −19.4 | −78.6 | −95.4 | −85.0 |
| Non-monetary deposits increase | −857.6 | −74.4 | −107.5 | −151.9 | −190.0 | −158.0 |
| Budget expenditures | 507.5 | 61.4 | 82.4 | 100.1 | 93.3 | 110.0 |
| Budget deficit | 43.1 | 14.5 | 11.6 | 8.5 | 7.2 | 5.3 |

*Source:* National statistics.

TABLE 2.2.4

**Yugoslavia: Employment**

| | | | *Annual percentage change* | | | | |
|---|---|---|---|---|---|---|---|
| | *End-1980 (thousands)* | *Percentage* | *1977* | *1978* | *1979* | *1980* | *1981* |
| Total labour force | 10 985 | 100.0 | 1.4 | 1.4 | 1.3 | 1.3 | 1.2 |
| Employment outside agriculture | 6 043 | 55.0 | 4.5 | 4.6 | 4.3 | 3.3 | 2.5 |
| Employment in agriculture | 3 669 | 33.4 | −1.8 | −2.2 | −2.1 | −1.3 | −1.0 |
| Employment abroad | 800* | 7.3* | −5.2 | −3.0 | — | — | — |
| Job seekers | 789 | 7.2 | 10.2 | 5.0 | 3.7 | 3.0 | 2.7 |
| Vacancies | 48 | 0.4 | 18.9 | 14.3 | 1.1 | −2.5 | −1.3 |
| Effectively unemployed | 473* | 4.3* | 10.2 | 5.0 | 3.6 | 3.0 | 2.7 |

*Source:* National statistics.

foreign exchange rate, first, in June 1980 by 30 per cent and, then, gradually in the autumn of 1981 by another 35 per cent. It seems also that import substitution policies undertaken a few years earlier began to produce results in 1980 and 1981.

The *current account deficit*, which reached a record $3.7 billion in 1979, was cut to $2.3 billion in 1980, and to $746 million in 1981 (table 2.2.5). The trade deficit in convertible currencies was larger than that but it was also considerably reduced, from well above $3 billion in 1979 to $2.2 billion in 1980 and to $1.4 billion in 1981.

The improvement in the current account balance was due principally to a considerable decline in the trade deficit which fell from $7.2 billion in 1979 to $6.1 billion in 1980 and $4.8 billion in 1981. It should be noted that the improvement would have been still better had foreign trade prices not risen. Although export and import prices changed at virtually the same rate (some 19 per cent in 1980 and another 12 per cent in 1981), they inflated the import bill more than export earnings, since the size of the latter was only 50–55 per cent of the former. The bulk of the above deficits were incurred in the trade with countries with convertible currencies. Here also large reductions in the deficit were achieved: from $6.6 billion in 1979 to $5.8 billion in 1980 and $5.2 billion in 1981. In value terms Yugoslav exports to countries with convertible currency increased by 21 per cent in 1980 and by 8 per cent in 1981, whereas imports remained roughly unchanged in both years. Exports (in volume terms) of all major types of product rose fast, but especially those of consumer goods which rose some 29 per cent in 1980 and 14 per cent in 1981. In the markets of countries with convertible currency, Yugoslavia is increasingly competing with the newly industrialized countries and particularly in the products which are not heavily protected in those markets. In the last two years Yugoslavia has recaptured a certain amount of market share in these countries.

Yugoslavia has a surplus in trade in services: this increased from $3.6 billion in 1979 to $3.8 billion in 1980 and $4.1 billion in 1981. The principal items within services are workers' remittances followed by tourism, but their exact relative size is difficult to establish because in the private sector they are not accurately recorded. An important influence on the services account are the incentives for Yugoslavs working abroad to repatriate both their current savings and a proportion of their accumulated capital. The rise in remittances is all the more remarkable in that the number of Yugoslavs working abroad has remained virtually unchanged in the last few years. The only negative balance in the service account are interest payments, which rose from $1.1

TABLE 2.2.5

**Yugoslavia: Balance of payments and foreign debt**

| | *1977* | *1978* | *1979* | *1980* | *1981* |
|---|---|---|---|---|---|
| | | | *Annual percentage change* | | |
| Volume growth | | | | | |
| Exports | −4.3 | −0.8 | −0.4 | 10.7 | 4.2 |
| Imports | 14.2 | −1.0 | 8.0 | −10.1 | −9.0 |
| Terms of trade | −1.1 | 3.9 | −3.7 | −0.3 | 0.4 |
| | | | *Million current US dollars* | | |
| Trade balance | −4 380 | −4 317 | −7 225 | −6 086 | −4 852 |
| Exports *c.i.f.* | 5 254 | 5 671 | 6 794 | 8 978 | 10 513 |
| Imports *f.o.b.* | 9 634 | 9 988 | 14 019 | 15 064 | −15 365 |
| Balance on services and transfers | 2 798 | 3 061 | 3 564 | 3 795 | 4 106 |
| Remittances | 1 427 | 1 714 | 1 710 | 1 539 | 2 800 |
| Tourism | 751 | 930 | 1 028 | 1 370 | 1 500 |
| Transportation | 563 | 585 | 731 | 832 | 950 |
| Interest | −258 | −300 | −1 035 | −1 084 | −1 550 |
| Other | 315 | 132 | 1 130 | 1 138 | 406 |
| Balance on current account | −1 582 | −1 256 | −3 661 | −2 291 | −746 |
| Capital account | 1 544 | 1 592 | 1 809 | 2 460 | 1 050 |
| Net reserve movements | −38 | 336 | −1 852 | 169 | 304 |
| Total reserves | 3 843 | 4 179 | 2 327 | 2 496 | 2 800 |
| Gross foreign debt | 9 540 | 11 833 | 14 952 | 19 055 | 21 000 |
| Net foreign debt[a] | 8 424 | 10 726 | 13 732 | 17 519 | 19 000 |
| Net foreign debt minus reserves | 4 581 | 5 547 | 11 405 | 15 033 | 16 200 |
| | | | *Percentage* | | |
| Ratio of total debt service to all exports | | | | | |
| Net | 14 | 14 | 17 | 16 | 16 |
| Gross | 17 | 18 | 21 | 20 | 20 |
| Ratio of total convertible debt service to all convertible currency receipts | | | | | |
| Net | 17 | 17 | 20 | 19 | 19 |
| Gross | 20 | 21 | 24 | 22 | 22 |

*Source:* National statistics and estimates of the ECE secretariat.

[a] Gross foreign debt minus credits to foreign borrowers.

billion in 1980 to $1.6 billion in 1981: the latter was somewhat less than 3 per cent of GNP in 1981. The increase reflects a rise in the proportion of short-term debt in the total, and the sharp rise in world interest rates.

In both 1980 and 1981 *capital* was imported not only to finance the deficit on current account but also to provide an addition to the foreign currency reserves. In 1981 foreign debt reached a total of $21 billion gross and $19 billion net. Judging by the ratio of debt service to export earnings—which for the total net debt amounted to some 16 per cent in both 1980 and 1981, and for the debt in convertible currencies—against inflows in convertible currency some 19 per cent in both 1980 and 1981—the level of this debt is not excessive. However, despite the fact that the international banking system tolerates debt service ratios of up to 25 per cent, Yugoslavia encountered considerable difficulties in increasing its new borrowing in 1980 and 1981. This is one of the main reasons why it is planned to balance the current account in 1983 and then to open the way for a reduction in foreign debt in subsequent years.

### (vi) Prospects for 1982

A further reduction of the deficit on the current account remains a priority of economic policy in 1982. To this end, the volume of private consumption is intended to remain at the same level as in 1981, but collective consumption is to be cut by another 4.4 per cent and investment in fixed assets by as much as 6 per cent. If this plan is realized, then the volume of private consumption in 1982 will remain roughly at the level of that in 1979, while the volume of collective consumption and of investments in fixed assets would be lower by some 10 and 20 per cent respectively. However, the volume of GNP would be 3 per cent higher than in 1979.

The distribution of the above cuts is influenced by the import intensity of different categories of expenditure and by the social importance of different consumption items. It is considered socially undesirable to allow anything more than very marginal cuts in the volume of private consumption, although shifts in its composition are acceptable. It is also considered undesirable to allow any further decline in real wages. Thus private consumption as a whole and real wages in particular are planned to remain unchanged in 1982.

It thus appears, that the scope for moving resources into a further rise in the export surplus in 1982 will be created not only by cuts in collective consumption and investment, but also by ensuring that all of the increase in domestic productivity goes into exports. In fact, exports of goods and services are planned to increase by 8.5 per cent while imports should fall by another 4.4 per cent. These changes should lead to a decline in the balance-of-payments deficit to $500 million in 1982. This may be optimistic given the slack conditions expected to prevail in the markets of the industrial countries; but it is assumed that as Yugoslavia's share in these markets is marginal, considerable movement is possible whatever the overall growth of the market. Import substitution is also expected to provide a positive contribution.

The negative repercussions of changes in demand which have been under-way since 1979 have not yet diminished. It is true that GNP is expected to grow in 1982 at a slightly faster rate of growth than in 1981 (2.5 per cent against 2 per cent). However, this acceleration is due to a much faster growth rate planned for agriculture (1.4 per cent in 1981 and 4 per cent in 1982) which is subject to climatic risk. In contrast, the growth rate of industry is expected to slacken further (from 4 per cent in 1981 to 3.5 per cent in 1982). This will undoubtedly provoke a further decline in the growth rate of non-agricultural employment (the plan puts it at 2 per cent) which will further aggravate the unemployment problem.

The planners expect a sharp deceleration in the rate of price inflation in 1982, to 20 per cent for the GNP deflator—half the 1981 rate. Agricultural producers will decelerate prices sharply (from a 50 per cent rise in 1981 to 19 per cent in 1982), as will industrial producer prices (from 47 to 20 per cent). The basis for such a deceleration is not made explicit in the published documents, but it seems plausible to expect that the rise in labour costs per unit of agricultural output should fall sharply given the fact that the agricultural terms of trade increased substantially between 1979 and 1981. However, incomes policy so far has not proved strong enough to limit the rise in nominal wages. It seems that the government is determined to reduce further the rate of increase in money supply in order to restrain demand inflation. However, the effectiveness of this policy may be questioned in the light of previous experience. For a number of years there has been discussion of policies which would provide a more balanced long-term allocation of enterprise incomes, more efficient use of increasingly scarce resources, particularly of capital, and concentration of capital resources in key sectors which could redress structural imbalances more quickly and improve the utilization of existing capacities. Judging by some published official documents, it would appear that the government is becoming increasingly aware of the soundness of such policies.

In December 1981 it was announced that the current five-year plan would be revised. According to preliminary information, the number and total value of priority investments will be reduced, although their share of total investment will increase.[180] In January 1982, a new federal law on depreciation charges and revalorization of fixed assets was approved: this increases depreciation charges by some 40 per cent in order to prevent in future the disinvestment that has occurred in many branches. Several measures to substantially increase and stabilize domestic agricultural production were implemented.[181] Together with others mentioned earlier, these measures are expected to gradually redress structural imbalances, to improve the balance of payments and to lay the basis for a faster rate of development in the future.

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[180] In an interview given to *Borba*, 21 January 1981, p. 7, S. Medenica, the Director General of the Federal Bureau for Social Planning, said that the highest priority will be given to investment projects promoting exports and import substitution and those redressing structural imbalances in the economy; the share of such priority projects in total gross investment should now amount to 75 per cent instead of the previous target of 63 per cent.

[181] At the end of January it was reported that the area under wheat in autumn 1981 had been increased by some 10 per cent. *Privredni pregled*, 28 January 1982, p. 2.

# 3. RECENT CHANGES IN THE STRUCTURE OF OUTPUT AND EMPLOYMENT IN THE MANUFACTURING SECTOR OF SOUTHERN EUROPE

## INTRODUCTION

This note attempts to put into a medium-term perspective the evolution of the manufacturing sector in the major countries of southern Europe. The world economic recession which followed the 1973/74 oil crisis affected the economies of these countries particularly severely. Not only was the slowdown of their economic growth relatively greater than in advanced industrial countries, but inflation, balance of payments and unemployment problems have also been more severe. The exhaustion of emigration outlets in the advanced countries of western Europe and the need to devise policies which would absorb rising levels of unemployment and favour the expansion of new sources of foreign exchange other than those based on tourism and emigrants' remittances place great importance on the development of the manufacturing sector. The need for policies which will maximize employment opportunities without impairing the competitiveness of branches which have already performed well in foreign markets, sets a new challenge to policy makers in these countries where industrial policies in the past have frequently been based on general protection from imports and a large measure of subsidy (for example, the encouragement of capital investments by the provision of loans at subsidized interest rates).

The south European countries are a heterogeneous group and the analysis of past trends is made particularly difficult by the small sample of countries and the shortness of the time series available. Nonetheless some attempt will be made to detect regional patterns. Moreover, in order to put the general trends in southern Europe in a broader perspective, the main features emerging from the data are frequently compared to those of west European countries which were dealt with in more detail in two previous studies of the Economic Commission for Europe.[182] These comparisons are justified not only because western Europe is the main economic and trading partner of the five southern countries, most of which are becoming more closely integrated with advanced industrial countries, but also because it is of interest to ascertain the extent to which south European countries are approaching or diverging from the trends and patterns prevailing in the more industrialized western countries.

The patterns of specialization emerging from the trends observed in the last decade should in no case be used for a simplistic extrapolation into the future: but such analysis can contribute to explaining why certain sectors or countries have experienced a particularly favourable or unfavourable evolution, and the extent to which this might continue in the future. The separation of the underlying structural economic changes from cyclical fluctuation is particularly difficult in these countries because of the short time series available. The timing of cyclical fluctuations also differs among the south European countries.

This note also examines how far the pattern of relative specialization of output and industrial employment in southern Europe has converged towards those prevailing in the more advanced countries of western Europe, and the extent to which the distributions of employment and production have moved towards more or less capital- and skill-intensive branches of production. The elucidation of such changes may be useful in indicating the extent to which further expansions of certain branches is still feasible. For example, the fact that in Greece the textile sector has shown for the whole period a considerable advance both in output and employment and that its growth elasticity remained positive after 1973 might reasonably lead to the conclusion that its growth and employment absorbing possibilities are not yet completely exhausted. On the other hand, this sector has been releasing manpower in Spain and has expanded at a very modest rate: this suggests that the possibilities for further employment expansion in this branch are very limited and policy efforts should rather be directed to the expansion of other branches even if a higher investment per employee is needed.

### *General trends in the manufacturing sector*

Table 2.3.1 shows the salient features of the evolution of the manufacturing sector in south European countries between 1965 and 1978 compared with changes in the economy as a whole.

Several features emerge clearly from this table. The first is that in three countries (Greece, Portugal and Turkey) the manufacturing sector attained its peak rate of growth during the early 1970s while in the two largest economies (Spain and Yugoslavia) the peak rate of growth had occurred already during

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[182] Economic Commission for Europe, *Structure and Change in European Industry*, United Nations, New York, 1977, and *Economic Survey of Europe in 1980*, United Nations, New York, 1981, chap. 4.

### Table 2.3.1

**Changes in output, employment and prices, 1960–1978**[a]
*(Annual compound rates of change)*

| Country and period | Total economy | | | | Manufacturing | | | |
|---|---|---|---|---|---|---|---|---|
| | *Q* | *E* | *LP* | *IP* | *Q* | *E* | *LP* | *IP* |
| *Greece* | | | | | | | | |
| 1960–1965 | 7.7 | −0.8 | 8.6 | 3.2 | 8.8 | 2.3 | 6.3 | 1.5 |
| 1965–1970 | 6.7 | −0.7 | 7.5 | 3.4 | 11.8 | 0.8 | 10.9 | 2.4 |
| 1970–1973 | 8.5 | 0.1 | 8.3 | 9.1 | 12.0 | 3.1 | 8.6 | 7.6 |
| 1973–1978 | 3.6 | 0.3 | 3.3 | 14.5 | 4.0 | 3.4 | 0.7 | 12.7 |
| 1973–1975 | 1.6 | −0.4 | 2.0 | 15.9 | 1.2 | 3.6 | −2.3 | 15.7 |
| 1975–1977 | 4.4 | 0.7 | 3.7 | 14.4 | 5.7 | 3.7 | 1.9 | 12.0 |
| 1977–1978 | 5.9 | 0.8 | 5.1 | 12.2 | 6.5 | 2.3 | 4.1 | 8.5 |
| *Portugal* | | | | | | | | |
| 1960–1965 | 6.2 | −0.7 | 6.9 | 1.7 | 8.9 | 1.4 | 7.4 | 1.4 |
| 1965–1970 | 6.1 | −0.7 | 6.9 | 3.9 | 8.3 | 1.2 | 7.0 | 1.7 |
| 1970–1973 | 9.3 | −0.1 | 9.5 | 7.1 | 11.7 | 1.6 | 10.0 | 6.2 |
| 1973–1978 | 2.8 | – | 2.8 | 19.8 | 2.1 | −1.0 | 3.1 | 21.7 |
| 1973–1975 | −1.2 | −0.4 | −0.8 | 17.5 | −3.3 | −2.2 | −1.2 | 18.7 |
| 1975–1977 | 6.6 | 0.3 | 6.3 | 20.6 | 7.1 | −0.2 | 7.3 | 23.7 |
| 1977–1978 | 3.4 | 0.2 | 3.2 | 22.7 | 3.3 | −0.2 | 3.5 | 24.0 |
| *Spain* | | | | | | | | |
| 1960–1965 | 8.7 | 0.6 | 8.1 | 6.5 | 12.1 | 3.4 | 8.4 | 3.6 |
| 1965–1970 | 6.5 | 0.9 | 5.5 | 6.1 | 9.4 | 1.9 | 7.4 | 3.5 |
| 1970–1973 | 7.4 | 1.5 | 5.8 | 9.1 | 10.9 | 2.6 | 8.1 | 6.6 |
| 1973–1978[b] | 3.3 | −1.2 | 4.6 | 19.1 | 3.0 | −0.8 | 3.8 | 16.4 |
| 1973–1975 | 3.6 | −0.6 | 4.2 | 17.3 | 2.9 | 1.6 | 1.2 | 15.2 |
| 1975–1977 | 3.1 | −1.1 | 4.2 | 19.5 | 3.3 | −2.3 | 5.7 | 16.0 |
| 1977–1978[b] | 3.0 | −2.7 | 5.8 | 21.2 | 1.9 | −2.4 | 4.4 | 16.5 |
| *Turkey* | | | | | | | | |
| 1960–1965 | 4.5 | 0.6 | 3.8 | 5.2 | 9.8 | 1.7 | 8.0 | 4.5 |
| 1965–1970 | 6.7 | 0.8 | 5.9 | 6.6 | 10.4 | 4.8 | 5.3 | 3.9 |
| 1970–1973 | 6.3 | 0.9 | 5.3 | 19.1 | 10.4 | 5.3 | 4.9 | 17.0 |
| 1973–1978 | 7.2 | 1.4 | 5.7 | 25.0 | 7.1 | 3.5 | 3.5 | 24.9 |
| 1973–1975 | 8.8 | 1.2 | 7.5 | 22.0 | 7.5 | 3.1 | 4.2 | 22.4 |
| 1975–1977 | 7.2 | 1.6 | 5.5 | 21.5 | 9.1 | 4.7 | 4.2 | 16.9 |
| 1977–1978 | 4.0 | 1.4 | 2.6 | 39.1 | 2.6 | 2.0 | 0.6 | 48.3 |
| *Yugoslavia* | | | | | | | | |
| 1960–1965 | 6.8 | 1.2 | 5.5 | 15.0 | 11.2 | 5.2 | 5.7 | 8.0 |
| 1965–1970 | 5.8 | – | 5.8 | 8.1 | 5.4 | 0.8 | 4.5 | 7.8 |
| 1970–1973 | 5.7 | 0.9 | 4.8 | 18.4 | 7.9 | 4.0 | 3.8 | 17.3 |
| 1973–1978 | 6.1 | 1.6 | 4.5 | 16.0 | 8.1 | 4.2 | 3.8 | 15.2 |
| 1973–1975 | 6.1 | 1.8 | 4.2 | 19.9 | 9.4 | 4.9 | 4.2 | 20.7 |
| 1975–1977 | 5.9 | 1.5 | 4.4 | 12.7 | 6.2 | 4.1 | 2.1 | 11.1 |
| 1977–1978 | 6.7 | 1.5 | 5.1 | 15.0 | 9.5 | 3.1 | 6.3 | 12.7 |

[a] *Key:* Q – Value added at 1970 prices.
E – Total employment.
LP – Value added per person employed.
IP – Implied prices of value added.

[b] Provisional.

the early 1960s. Manufacturing, however, continued to be a leading sector (up to the period 1971–1973) in all the southern countries in the sense that its rate of expansion of output was considerably and consistently above that for the economy as a whole (except for the period 1965–1970 in Yugoslavia). This growth pattern changed radically after 1973. In Greece, Portugal, Spain and Turkey, the output elasticity[183] of the manufacturing sector with respect to the economy as a whole becomes less than unity in three countries (Greece, Spain and Turkey) and negative in Portugal. After a short-lived period in which manufacturing partly recovered its more dynamic role (1975–1977) its positive influence weakened again in 1978 in Spain and Turkey, and in 1980 or 1981 in Greece, Spain and Turkey.

Changes in the growth rate of the total economy have been closely associated with changes in the manufacturing sector but the still relatively important shares of agriculture and services in total output have tended to dampen the effect of fluctuations in the manufacturing sector.

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[183] The rate of change in the manufacturing sector as a ratio of that for the economy as a whole.

There are few similarities among the individual south European countries in the time-pattern of adjustment to the new economic situation emerging after the first oil "shock". In *Greece* there was a setback in 1974 and decelerations in 1977 and 1979, but the growth of total output was higher in 1975–1976 and 1978, but then decelerated up to 1981. In *Portugal* there was a setback in 1974–1975, a recovery in 1976, a slowdown in 1977–1978 and a further recovery in 1980. *Spain* lagged behind the cycle in the advanced western countries by about a year. The first oil cycle started to be felt in 1975 but the recovery in 1976–1977 was less vigorous than in the advanced western countries and the rate of growth in 1979–1981 was less than 1 per cent. *Turkey* maintained a high rate of growth until 1977 followed by a rapid deceleration to small negative rates in 1979–1980. In *Yugoslavia* there was a mild slowdown in 1972–1973 and 1975–1976 and growth remained steady in the rest of the post-1973 period.

The contrast between the rates of growth prevailing in manufacturing during the years 1973–1978 and those preceding the increase in oil prices was particularly noticeable in the Iberian countries where the growth of manufacturing industry diminished to less than one fifth (in Portugal) and less than one third (in Spain) of their respective 1970–1973 rates. In Greece this slowdown was almost as severe as in Spain while in Turkey the growth of output declined by one half.

Data for the manufacturing sector during 1979–1980 suggest, however, that the seemingly more favourable trends in Greece and Turkey simply reflect a longer time lag in the adjustment process. Yugoslavia, however, is exceptional in having maintained rates of expansion which are not substantially different from those prevailing before the present world recession.[184]

Except for Yugoslavia the deceleration in the rate of growth of output after 1973 coincided with increasing rates of price inflation, particularly in Turkey and Portugal; in the former they reached hyper-inflation levels in 1979–1980.

The post-1973 recession was reflected most severely in the employment trends of both Iberian countries, where employment fell; but the rise in employment also slowed down in Greece and Turkey. Labour productivity declined in all countries except Yugoslavia, the fall being particularly severe in Greece.

During the period 1970–1973 the growth of manufacturing output in southern Europe was 8.5 per cent (compound annual rate) compared to about 5 per cent in the more industrialized countries of western Europe. The difference in growth rates widened further in 1973–1978 (5 per cent in southern Europe, 1 per cent in western Europe), although the gap in productivity growth narrowed (3 per cent a year in the south and 2.4 per cent in western Europe). However, price increases in the southern countries were much steeper than in western Europe (the implicit deflator of manufacturing value added rose on average by some 18 per cent in the south and by about 11 per cent in the west). As is shown in section 1 of this chapter, the deceleration of manufacturing output growth became much more acute in the period 1978–1980: the growth rate in four of these countries (Yugoslavia excluded) fell to about 1.5 per cent which was actually below the average rate of expansion in western Europe (slightly over 2 per cent).

### *Country and branch patterns of growth*

Chart 2.3.1 shows in a dramatic way the sharp changes in the growth pattern of the manufacturing sector in the majority of south European countries after 1973.

In *Greece*, for those sectors accounting for at least 5 per cent of total manufacturing output, the largest falls in growth rates occurred in basic metals, petroleum and coal products, electrical equipment, wood and furniture and transport equipment. In contrast, chemicals, textiles, food processing, non-metallic minerals and clothing were more resilient. The reasons for these changes are, however, far from uniform. For instance the decline in the growth of basic metals is due to the exhaustion of new opportunities of expansion in the aluminium industry, where productive capacity had increased extremely rapidly (under the impetus of massive foreign investments) during the previous period. Another exceptional sector is non-metallic minerals where the large capacities created during the building boom of the early 1950s and late 1960s provided a base for exports to the oil exporting countries, to which Greece was also exporting public works "know-how".[185] In contrast the wood and furniture branch was unable to offset the effect of the end of the domestic building boom with new outlets abroad. Other branches have shown a more common cyclical behaviour: consumers' goods branches proving more resilient and capital goods being more affected by declining rates of domestic investment.

In *Portugal* the main falls in sectoral growth rates were in non-electrical machinery, textiles, clothing, metal products, transport equipment, and wood and furniture; the more resistant branches were food processing and drink, chemicals and non-metallic minerals. The reduction of the rate of growth in 1973–1978 to less than one fifth of that for the period 1970–1973 is of course the main cause of the emergence in this country of a much greater number of "crisis" sectors. Two factors, however, have played an important role. The first (in common with other southern countries except Yugoslavia) was a decline in total and manufacturing investment; the second, specific to Portugal, was the loss of the protected colonial markets which affected very severely branches such as textiles, clothing and rubber.

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[184] In Greece manufacturing output was stagnant in 1980 and in Turkey it actually fell in 1979–1980.

[185] The ratio of exports to gross output rose from less than 5 per cent in 1970–1972 to 22 per cent in 1976–1978.

CHART 2.3.1

The growth of real output, by manufacturing branch, in southern Europe, 1965 to 1973 and 1973 to 1978

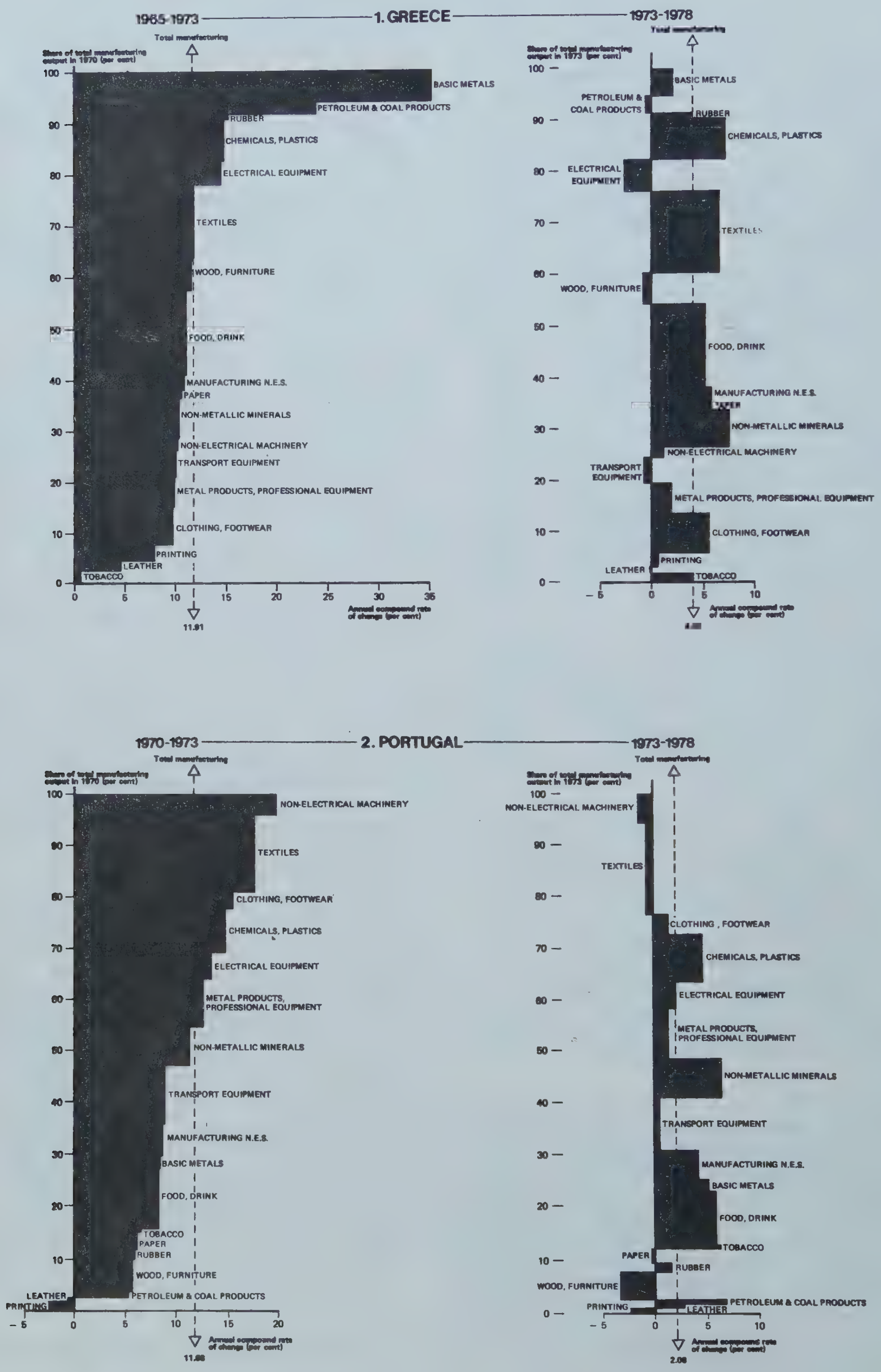
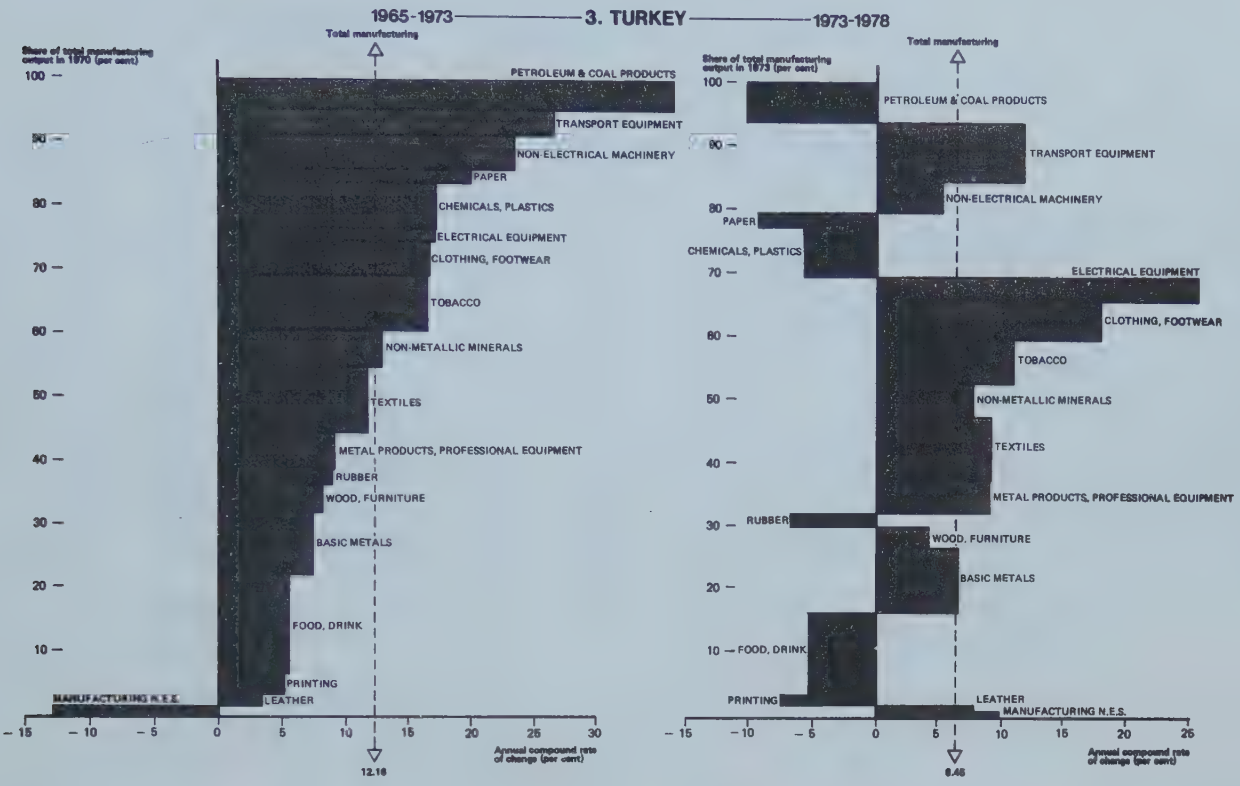


CHART 2.3.1 (*continued*)



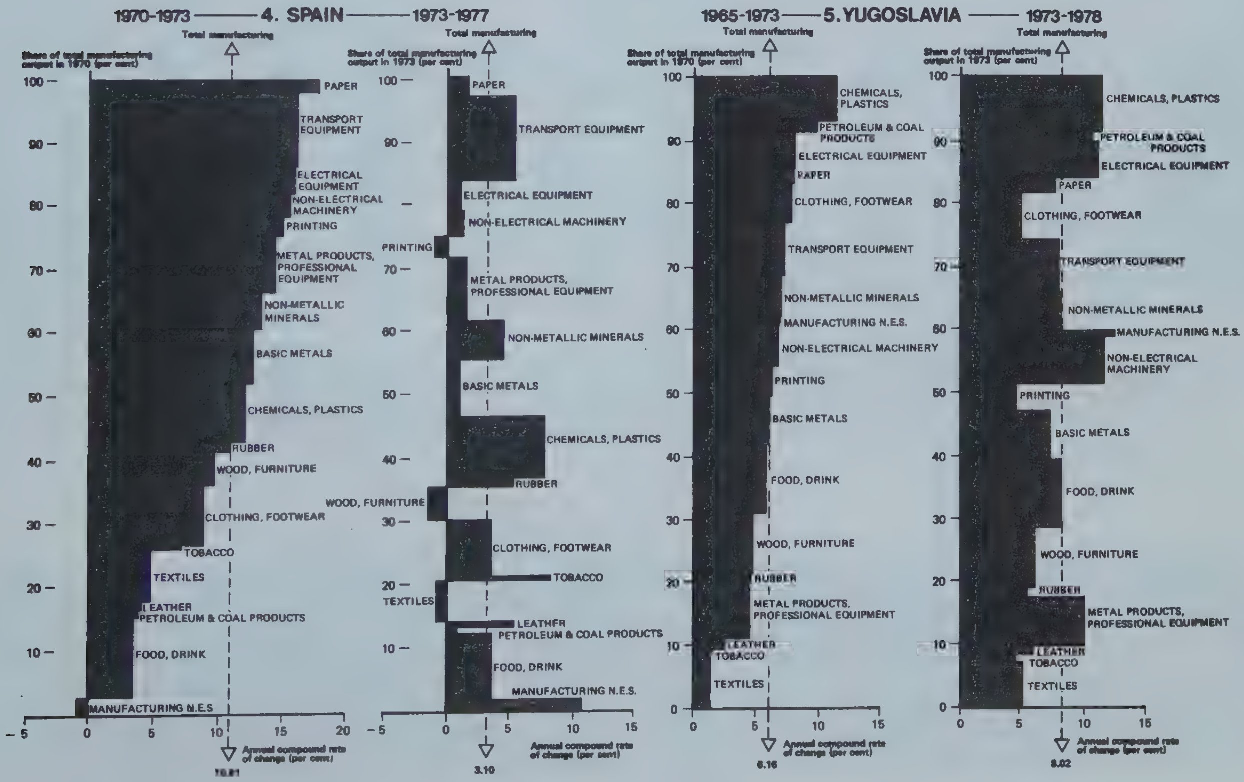


TABLE 2.3.2

Growth rates of output by manufacturing branch, 1965–1978[a]

| | *Greece: 1965–1973* | | *Portugal: 1970–1973* | | *Spain: 1970–1973* | | *Turkey: 1965–1973* | | *Yugoslavia: 1965–1973* | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Branch* | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* |
| Food and drink | 11.15 | 0.94 | 8.21 | 0.70 | 3.46 | 0.32 | 5.92 | 0.49 | 5.82 | 0.94 |
| Tobacco | 0.34 | 0.03 | 6.37 | 0.55 | 7.12 | 0.65 | 16.84 | 1.39 | 1.64 | 0.27 |
| Textiles | 11.78 | 0.99 | 17.81 | 1.52 | 4.71 | 0.43 | 12.01 | 0.99 | 1.39 | 0.23 |
| Clothing and footwear | 9.69 | 0.81 | 15.73 | 1.35 | 8.85 | 0.81 | 17.07 | 1.40 | 7.79 | 1.26 |
| Leather | 4.60 | 0.39 | −0.95 | −0.08 | 3.88 | 0.36 | 3.74 | 0.31 | 2.59 | 0.42 |
| Wood | 11.52 | 0.97 | 5.68 | 0.49 | 9.67 | 0.89 | 8.47 | 0.70 | 4.66 | 0.76 |
| Paper | 10.62 | 0.89 | 5.99 | 0.51 | 17.87 | 1.64 | 20.20 | 1.66 | 7.97 | 1.29 |
| Printing | 7.78 | 0.65 | −2.67 | −0.23 | 15.06 | 1.38 | 5.38 | 0.44 | 6.29 | 1.02 |
| Chemicals | 15.00 | 1.26 | 14.90 | 1.28 | 12.04 | 1.10 | 17.55 | 1.44 | 11.46 | 1.86 |
| Petroleum and coal products | 24.15 | 2.03 | 5.08 | 0.44 | 3.81 | 0.35 | 37.85 | 3.11 | 9.86 | 1.60 |
| Rubber | 15.41 | 1.29 | 5.91 | 0.51 | 10.77 | 0.99 | 9.18 | 0.76 | 4.63 | 0.75 |
| Non-metallic minerals | 10.40 | 0.87 | 11.26 | 0.96 | 13.35 | 1.22 | 13.11 | 1.08 | 6.87 | 1.11 |
| Basic metals | 35.49 | 2.98 | 8.38 | 0.72 | 12.75 | 1.17 | 7.58 | 0.62 | 5.98 | 0.97 |
| Metal products | 9.87 | 0.83 | 12.58 | 1.08 | 14.41 | 1.32 | 9.39 | 0.77 | 4.58 | 0.74 |
| Non-electrical machinery | 10.13 | 0.85 | 20.24 | 1.73 | 15.70 | 1.44 | 23.69 | 1.95 | 6.78 | 1.10 |
| Electrical machinery | 14.61 | 1.23 | 13.58 | 1.16 | 16.00 | 1.47 | 17.25 | 1.42 | 8.14 | 1.32 |
| Transport equipment | 9.80 | 0.33 | 8.98 | 0.77 | 16.09 | 1.48 | 26.90 | 2.21 | 7.25 | 1.18 |
| Other | 10.80 | 0.91 | 8.39 | 0.72 | −1.21 | −0.11 | −13.13 | −1.08 | 6.79 | 1.10 |
| TOTAL | 11.91 | 1.00 | 11.68 | 1.00 | 10.91 | 1.00 | 12.16 | 1.00 | 6.16 | 1.00 |

| | *Greece: 1973–1978* | | *Portugal: 1973–1978* | | *Spain: 1973–1977* | | *Turkey: 1973–1976* | | *Yugoslavia: 1973–1978* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* |
| Food and drink | 5.22 | 1.30 | 5.52 | 2.67 | 3.60 | 1.16 | 1.30 | 0.16 | 8.03 | 1.00 |
| Tobacco | 7.51 | 1.86 | 6.10 | 2.96 | 8.34 | 2.69 | 1.57 | 0.19 | 4.47 | 0.56 |
| Textiles | 6.48 | 1.61 | −0.64 | −0.31 | −0.83 | −0.27 | 10.30 | 1.23 | 5.02 | 0.63 |
| Clothing and footwear | 5.48 | 1.36 | 1.47 | 0.71 | 3.47 | 1.12 | 27.46 | 3.29 | 4.73 | 0.59 |
| Leather | −0.15 | −0.04 | 2.74 | 1.33 | 5.32 | 1.72 | 17.84 | 2.14 | 5.99 | 0.75 |
| Wood | −0.84 | −0.21 | −3.49 | −1.69 | −1.75 | −0.57 | 7.17 | 0.86 | 5.93 | 0.74 |
| Paper | 5.76 | 1.43 | −0.12 | −0.06 | 1.50 | 0.48 | 9.01 | 1.08 | 7.25 | 0.90 |
| Printing | 0.58 | 0.14 | −2.47 | −1.20 | −0.91 | −0.30 | 3.30 | 0.40 | 4.50 | 0.56 |
| Chemicals | 7.35 | 1.82 | 4.81 | 2.33 | 7.69 | 2.48 | 5.75 | 0.69 | 11.01 | 1.37 |
| Petroleum and coal products | −0.29 | −0.07 | 6.77 | 3.28 | 0.83 | 0.27 | −3.30 | −0.40 | 10.33 | 1.29 |
| Rubber | 3.67 | 0.91 | 1.74 | 0.84 | 5.30 | 1.71 | 3.95 | 0.47 | 5.31 | 0.66 |
| Non-metallic minerals | 7.42 | 1.84 | 6.54 | 3.17 | 4.33 | 1.40 | 4.34 | 0.52 | 8.01 | 1.00 |
| Basic metals | 2.03 | 0.90 | 5.02 | 2.43 | 0.91 | 0.29 | −0.04 | – | 7.16 | 0.89 |
| Metal products | 2.09 | 0.52 | 1.35 | 0.66 | 1.48 | 0.48 | 0.06 | 0.01 | 9.97 | 1.24 |
| Non-electrical machinery | 1.20 | 0.30 | −1.42 | −0.69 | 1.12 | 0.36 | 10.84 | 1.30 | 11.36 | 1.42 |
| Electrical machinery | −2.47 | −0.61 | 2.25 | 1.09 | 1.05 | 0.34 | 29.43 | 3.53 | 10.76 | 1.34 |
| Transport equipment | −0.97 | −0.24 | 0.49 | 0.24 | 5.34 | 1.72 | 16.79 | 2.01 | 7.93 | 0.99 |
| Other | 5.76 | 1.43 | 4.28 | 2.08 | 10.51 | 3.39 | 11.37 | 1.36 | 12.26 | 1.53 |
| TOTAL | 4.03 | 1.00 | 2.06 | 1.00 | 3.10 | 1.00 | 8.35 | 1.00 | 8.02 | 1.00 |

[a] A – compound growth rate of output. B – growth elasticity = ratio of branch growth rate to that of total manufacturing.

In *Spain* textiles, wood and furniture, and printing experienced negative rates of growth during the second period but there were also large falls in the growth rates of basic metals, metal products, machinery and electrical equipment. As Spain is a relatively closed economy (with both imports and exports accounting for less than 10 per cent of gross manufacturing output) the main influences on the pattern of branch growth rates have originated mainly from domestic demand and, particularly, from the contraction in demand for investment goods. Nevertheless, foreign demand has played an important role in sustaining output in basic metals, transport equipment (especially motor cars) and for reasons similar to those operating in Greece, in non-metallic minerals.

TABLE 2.3.3

**Growth rates of employment by manufacturing branch, 1965–1978[a]**

| Branch | *Greece: 1965–1970* | | *Portugal: 1970–1973* | | *Spain: 1970–1973* | | *Turkey: 1965–1973[b]* | | *Yugoslavia: 1965–1973* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* |
| Food and drink | 1.05 | 0.62 | −1.62 | −1.04 | 1.78 | 0.68 | 5.79 | 0.75 | 3.34 | 1.12 |
| Tobacco | −6.89 | −4.08 | 3.08 | 1.97 | – | – | 5.53 | 0.72 | −3.68 | −1.23 |
| Textiles | 1.78 | 1.06 | 0.08 | 0.05 | 3.57 | 1.37 | 3.00 | 0.39 | 3.55 | 1.19 |
| Clothing and footwear | −1.92 | −1.14 | 2.61 | 1.67 | 3.30 | 1.27 | 18.00 | 2.34 | 3.32 | 1.11 |
| Leather | 0.40 | 0.24 | −2.44 | −1.56 | 5.27 | 2.02 | 3.57 | 0.47 | 3.17 | 1.06 |
| Wood | 1.42 | 0.84 | −0.60 | −0.38 | 5.58 | 2.14 | 6.37 | 0.83 | 0.42 | 0.14 |
| Paper | 0.81 | 0.48 | −2.88 | −1.84 | 4.94 | 1.90 | 6.17 | 0.80 | 3.21 | 1.08 |
| Printing | 1.40 | 0.83 | – | – | 4.93 | 1.89 | 2.00 | 0.26 | 2.24 | 0.75 |
| Chemicals | 5.22 | 3.10 | 3.32 | 2.12 | 6.90 | 2.65 | 14.30 | 1.86 | 4.43 | 1.49 |
| Petroleum and coal products | 10.77 | 6.39 | 1.20 | 0.77 | – | – | 28.79 | 3.75 | 2.41 | 0.81 |
| Rubber | 1.56 | 0.92 | −1.85 | −1.18 | 3.48 | 1.34 | 9.33 | 1.21 | 5.69 | 1.91 |
| Non-metallic minerals | 0.56 | 0.33 | 2.10 | 1.35 | 2.39 | 0.92 | 5.90 | 0.77 | 1.87 | 0.63 |
| Basic metals | 12.88 | 7.64 | 7.26 | 4.64 | −4.89 | −1.88 | 14.76 | 1.92 | 4.48 | 1.50 |
| Metal products | 2.11 | 1.25 | −8.56 | −5.47 | 3.33 | 1.28 | 1.17 | 0.15 | 5.58 | 1.87 |
| Non-electrical machinery | 3.66 | 2.17 | 20.78 | 13.29 | 1.36 | 0.52 | 22.44 | 2.92 | 4.58 | 1.53 |
| Electrical machinery | 7.81 | 4.63 | −5.32 | −3.40 | 5.98 | 2.30 | 26.20 | 3.41 | 3.97 | 1.33 |
| Transport equipment | 6.02 | 3.57 | 6.24 | 3.99 | 3.15 | 1.21 | 14.16 | 1.84 | −0.05 | −0.02 |
| Other | 2.92 | 1.73 | −0.66 | −0.42 | −10.85 | −4.16 | −22.87 | −2.98 | 0.52 | 0.17 |
| TOTAL | 1.69 | 1.00 | 1.56 | 1.00 | 2.61 | 1.00 | 7.69 | 1.00 | 2.98 | 1.00 |

| | *Greece: 1970–1973* | | *Portugal: 1973–1978* | | *Spain: 1973–1978* | | *Turkey: 1973–1976[b]* | | *Yugoslavia: 1973–1978* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* |
| Food and drink | 3.79 | 1.06 | −2.09 | 2.11 | 0.23 | −0.31 | 3.67 | 0.74 | 4.81 | 1.12 |
| Tobacco | −2.33 | −0.65 | 2.48 | −2.50 | – | – | −1.91 | −0.38 | 0.73 | 0.17 |
| Textiles | 5.40 | 1.51 | −0.79 | 0.80 | −3.13 | 4.11 | 5.87 | 1.18 | 2.02 | 0.47 |
| Clothing and footwear | 4.10 | 1.15 | −0.65 | 0.66 | −4.61 | 6.07 | 13.92 | 2.79 | 5.05 | 1.18 |
| Leather | 5.08 | 1.42 | – | – | 0.57 | −0.74 | 11.87 | 2.38 | 4.22 | 0.99 |
| Wood | 4.56 | 1.28 | −0.33 | 0.33 | −0.35 | 0.46 | 3.62 | 0.73 | 3.04 | 0.71 |
| Paper | 3.68 | 1.03 | 1.25 | −1.26 | 0.76 | −1.00 | 3.95 | 0.79 | 4.01 | 0.94 |
| Printing | −0.33 | −0.09 | −0.55 | 0.55 | −0.17 | 0.22 | 0.32 | 0.06 | 3.69 | 0.86 |
| Chemicals | 5.12 | 1.43 | 0.92 | −0.93 | – | – | 5.92 | 1.19 | 3.95 | 0.92 |
| Petroleum and coal products | 8.47 | 2.37 | 1.03 | −1.04 | 3.71 | −4.89 | 4.09 | 0.82 | 3.93 | 0.92 |
| Rubber | −1.17 | −0.33 | – | – | – | – | −1.77 | −0.35 | 4.60 | 1.07 |
| Non-metallic minerals | 1.23 | 0.34 | −0.08 | 0.08 | 0.77 | −1.01 | 8.10 | 1.62 | 2.74 | 0.64 |
| Basic metals | 5.05 | 1.41 | −2.82 | 2.84 | −3.78 | 4.98 | 14.04 | 2.81 | 1.62 | 0.38 |
| Metal products | 3.73 | 1.04 | −3.57 | 3.60 | 1.38 | −1.82 | −4.17 | −0.84 | 5.52 | 1.29 |
| Non-electrical machinery | 3.83 | 1.07 | −2.34 | 2.36 | 2.99 | −3.93 | 2.65 | 0.53 | 8.83 | 2.06 |
| Electrical machinery | −4.55 | −1.28 | −2.50 | 2.52 | 0.59 | −0.78 | 10.61 | 2.13 | 5.18 | 1.21 |
| Transport equipment | 5.31 | 1.49 | −0.40 | 0.40 | 1.72 | −2.26 | 3.67 | 0.73 | 4.97 | 1.16 |
| Other | 5.01 | 1.40 | −1.93 | 1.94 | −9.77 | 12.85 | 3.31 | 0.66 | 4.16 | 0.97 |
| TOTAL | 3.57 | 1.00 | −0.99 | 1.00 | −0.76 | 1.00 | 4.99 | 1.00 | 4.28 | 1.00 |

[a] A = compound growth rate of employment; B = ratio of branch growth rate to that of total manufacturing.

[b] Employment in large establishments is used.

No great significance can be attributed to the data on *Turkey* since bottlenecks in the supply of foreign inputs or plant breakdowns (basic metals and petroleum refining) have influenced the data of chart 2.3.1 (although this does not cover the years in which these problems became considerably more acute and rates of change in many cases negative). Many individual branches have had high growth rates in both periods (transport equipment, electrical equipment, clothing and textiles): these reflect either the recent start-up of new activities or large increases in capacity during the early 1970s.

*Yugoslavia* is exceptional in that the growth of manufacturing output was actually higher during the second period than in the first. The contrast with the

TABLE 2.3.4

**Fluctuations in the growth of real output, 1970–1978, by manufacturing branch**[a]

| Branch | Greece | Portugal | Spain[b] | Turkey | Yugoslavia | Unweighted average |
|---|---|---|---|---|---|---|
| Food and drink | 2.8 | 6.5 | 6.0 | 8.6 | 1.6 | 2.4 |
| Tobacco | 51.4 | 185.9 | 124.9 | 26.4 | 82.8 | 53.9 |
| Textiles | 3.2 | 6.6 | 7.3 | 8.4 | 3.5 | 2.7 |
| Clothing and footwear | 3.9 | 21.4 | 5.3 | 1.6 | 12.4 | 6.0 |
| Leather | 92.1 | 229.3 | 122.9 | 318.6 | 57.3 | 155.6 |
| Wood and furniture | 11.4 | 13.8 | 12.4 | 41.6 | 3.1 | 4.0 |
| Paper | 92.3 | 15.3 | 27.9 | 219.3 | 21.8 | 15.5 |
| Printing | 13.0 | 91.4 | 29.7 | 79.3 | 6.7 | 7.8 |
| Chemicals and plastics | 4.6 | 5.6 | 3.8 | 28.9 | 3.5 | 3.0 |
| Petroleum and coal products | 79.1 | 111.5 | 74.8 | 60.9 | 33.9 | 68.9 |
| Rubber | 103.9 | 45.8 | 46.5 | 100.1 | 50.2 | 19.9 |
| Non-metallic minerals | 8.8 | 6.9 | 5.8 | 24.5 | – | 6.0 |
| Basic metals | 22.9 | 84.9 | 6.2 | 20.4 | 2.9 | 8.4 |
| Metal products | 19.1 | 7.6 | 7.6 | 33.7 | 8.1 | 5.3 |
| Non-electrical machinery | 50.5 | 23.3 | 19.0 | 31.2 | 4.1 | 8.4 |
| Electrical equipment | 30.4 | 8.5 | 17.3 | 24.6 | 7.8 | 9.3 |
| Transport equipment | 15.4 | 6.8 | 2.8 | 27.6 | – | 5.2 |
| Manufacturing n.e.s. | 21.8 | 14.9 | 85.4 | 173.5 | 69.8 | 31.9 |

[a] Standard deviation of the annual changes in value added at 1970 prices expressed as a percentage of the trend rate of growth. 1970–1978.

[b] 1970–1977.

other south European countries emerges clearly in chart 2.3.1. Branches which grew *less* in the second period were clothing and footwear, and printing, while metal products and non-electrical machinery, which in the majority of the other southern countries were especially depressed due to the fall in investment demand, grew faster.

The very different patterns of growth rates before and after 1973 can be summarized by the Spearman rank correlation coefficients between the rank orders of branch growth rates in the two periods. The coefficients are insignificant and negative in three countries (Greece, Portugal and Spain) and insignificant but positive in Turkey. Only in Yugoslavia, where total output grew faster in the second period was there a significant but mild degree of resemblance between the pattern of growth rates in the two periods.[186]

Tables 2.3.2 and 2.3.3 show that growth elasticities[187] changed considerably between the two periods: there is a general decline of the output elasticities of "metal products" and "non-electrical machinery",[188] but in general there is no common pattern.

The dispersal of the rates of change of branch output increased in each of the four countries where the growth of total manufacturing output fell between the first and second period. In Yugoslavia, where overall growth accelerated, branch growth rates tended to converge around the average. This would seem to imply, other things being equal, that lower growth results in larger changes in the branch distribution of output.

Inter-branch differences in the growth of employment do not fall into a common country pattern but, contrary to the case of output, they have tended to narrow (except in the case of Spain) after 1973. This may simply reflect the longer time taken by employment to adjust to demand changes.

Average annual fluctuations about their trend rates of growth are summarized for individual branches in tables 2.3.4 and 2.3.5. There is a close resemblance among the south European countries in the relative degree of branch fluctuations. For both regional averages (output and employment) *"petrol"*, *"leather"* and *"tobacco"* show the highest degree of fluctuation and *"food and drink"*, *"textiles"* and *"chemicals"* have the lowest. Output fluctuations are also relatively high in rubber (in Greece, Turkey and Yugoslavia) and paper (in Greece and Turkey).

Fluctuations in employment tend to be quite high in paper (in Portugal, Spain and Turkey) and rubber (in Greece and Yugoslavia), and relatively low for non-metallic minerals.

Comparisons of changes in relative wages are limited by scarcity of data, but some comparison can be made on the basis of table 2.3.6. It can be seen that, with the exception of Yugoslavia, the inter-branch pattern of differences is fairly similar among south European countries and has remained fairly stable within each individual country. The south European pattern is also close to the "west European" pattern for 1968–1970. The Spearman rank correlation coefficients between the rank order of branch wages per head in each country and the 1968–1970 west European pattern are generally high:

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[186] The rank correlation coefficient is 0.53, which is significant at 5 per cent.

[187] Growth elasticity is defined as the ratio of each individual branch rate of change to that for total manufacturing.

[188] Obviously influenced by decelerating demand for investment goods.

### TABLE 2.3.5

### Fluctuations in the growth of employment, 1970–1978, by manufacturing branch[a]

| *Branch* | *Greece*[b] | *Portugal* | *Spain*[c] | *Turkey* | *Yugoslavia* | *Unweighted average* |
|---|---|---|---|---|---|---|
| Food and drink | 0.8 | 6.8 | 1.3 | 2.0 | 1.7 | 1.3 |
| Tobacco | 45.7 | 164.9 | 165.8 | 34.5 | 36.8 | 30.1 |
| Textiles | 1.8 | 0.9 | 8.3 | 3.5 | 2.9 | 1.3 |
| Clothing and footwear | 4.1 | 1.0 | 3.5 | 4.2 | 3.7 | 3.2 |
| Leather | 21.8 | 96.4 | 38.9 | 124.9 | 14.8 | 43.7 |
| Wood and furniture | 3.5 | 2.6 | 2.9 | 2.0 | 1.9 | 1.5 |
| Paper | 19.6 | 61.8 | 44.0 | 101.1 | 18.1 | 22.8 |
| Printing | 8.8 | 23.1 | 10.5 | 45.1 | 6.4 | 7.9 |
| Chemicals and plastics | 7.8 | 5.7 | 5.6 | 37.2 | 4.9 | 4.6 |
| Petroleum and coal products | 206.5 | 31.5 | 183.1 | 938.9 | 93.9 | 78.8 |
| Rubber | 36.9 | 60.6 | 22.1 | 47.6 | 24.8 | 18.6 |
| Non-metallic minerals | 2.5 | 2.3 | 4.1 | 14.1 | 4.1 | – |
| Basic metals | 34.2 | 13.7 | 25.7 | 33.0 | 9.5 | 6.2 |
| Metal products | 2.5 | 12.1 | 4.7 | 12.7 | 3.9 | 3.4 |
| Non-electrical machinery | 5.4 | 26.5 | 16.5 | 24.9 | 4.5 | 7.4 |
| Electrical equipment | 21.2 | 41.4 | 11.3 | 39.9 | 3.1 | 10.7 |
| Transport equipment | 5.0 | 5.6 | 3.9 | 4.4 | 6.6 | 1.5 |
| Manufacturing n.e.s. | 5.6 | 9.8 | 42.3 | 64.2 | 77.7 | 29.0 |

[a] Standard deviation of the annual changes in employment expressed as a percentage of the trend rate of growth. 1970–1978.

[b] 1970–1975.

[c] 1970–1975.

### TABLE 2.3.6

### Ratio of wages and salaries per worker in each branch to the national manufacturing average

(*National average = 100*)

| | *Greece* | | *Portugal* | | *Spain* | | *Turkey* | | *Yugoslavia* | | *Western Europe average*[a] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *1970* | *1974* | *1971* | *1978* | *1970* | *1976* | *1970* | *1976* | *1970* | *1978* | *1968–1970* |
| Food and drink | 96 | 89 | 90 | 96 | 67 | 60 | 91 | 83 | 106 | 104 | 97 |
| Tobacco | 95 | 87 | 149 | 149 | 105 | 106 | 87 | 94 | 77 | 96 | 101 |
| Textiles | 96 | 94 | 77 | 79 | 77 | 75 | 81 | 80 | 71 | 74 | 81 |
| Clothing and footwear | 67 | 74 | 61 | 71 | 85 | 85 | 107 | 82 | 74 | 78 | 65 |
| Leather | 81 | 75 | 89 | 97 | 97 | 99 | 81 | 66 | 99 | 94 | 76 |
| Wood and furniture | 75 | 75 | 75 | 72 | 66 | 65 | 73 | 85 | 93 | 92 | 85 |
| Paper | 104 | 113 | 131 | 125 | 96 | 107 | 110 | 114 | 98 | 101 | 108 |
| Printing | 123 | 121 | 113 | 104 | 101 | 95 | 138 | 111 | 186 | 131 | 114 |
| Chemicals | 136 | 128 | 141 | 124 | 124 | 119 | 134 | 124 | 106 | 104 | 130 |
| Petroleum and coal products | 186 | 186 | 295 | 208 | 153 | 167 | 195 | 205 | 138 | 140 | 160 |
| Rubber | 114 | 110 | 115 | 114 | 115 | 104 | 115 | 123 | 67 | 88 | 109 |
| Non-metallic minerals | 107 | 106 | 107 | 106 | 90 | 89 | 98 | 102 | 91 | 93 | 97 |
| Basic metals | 204 | 195 | 185 | 128 | 145 | 165 | 141 | 124 | 74 | 70 | 117 |
| Metal products | 92 | 92 | 110 | 108 | 98 | 108 | 108 | 98 | 144 | 135 | 100 |
| Non-electrical machinery | 91 | 96 | 120 | 116 | 169 | 141 | 123 | 109 | 114 | 110 | 114 |
| Electrical machinery | 111 | 107 | 129 | 124 | 82 | 86 | 111 | 124 | 92 | 105 | 106 |
| Transport equipment | 110 | 122 | 158 | 144 | 155 | 133 | 106 | 117 | 107 | 117 | 120 |
| Other | 73 | 69 | 80 | 82 | 92 | 106 | 94 | 78 | 181 | 142 | 99 |
| TOTAL | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

[a] This average excludes France but includes Yugoslavia.

0.81 in Turkey and Portugal (in 1978), 0.86 in Greece (in 1974), and 0.79 in Spain (in 1976). In Yugoslavia, where the coefficient was only 0.42 in 1978, wage differentials, compared with the average western pattern of 1968–1970, were much lower in rubber and much higher in metal products and "other manufacturing". Thus the high-wage and low-wage branches tend to be the same in all countries.

### *Changes in branch shares of total manufacturing output and employment*

Branch shares of total manufacturing output and employment which have shown a significant upward or downward trend between 1970 and 1978 are shown in table 2.3.7. Only half of the 90 branch equations (18 branches in five countries) proved

TABLE 2.3.7

**Significant time trends in the branch shares of total manufacturing output and employment, 1970–1978**[a]

| | *Value added at 1970 prices* | | | | | *Total employment* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Greece* | *Portugal* | *Spain* | *Turkey* | *Yugoslavia* | *Greece* | *Portugal* | *Spain* | *Turkey* | *Yugoslavia* |
| Food and drink | | 0.017 | −0.020 | −0.093 | | | −0.018 | | | |
| Tobacco products | | | 0.018 | | | −0.048 | 0.033 | | −0.029 | −0.027 |
| Textiles | 0.032 | | −0.045 | | −0.029 | 0.015 | | | | −0.012 |
| Clothing and footwear | 0.014 | | | 0.010 | | −0.018 | | −0.027 | 0.024 | 0.012 |
| Leather | −0.069 | −0.033 | −0.028 | | −0.016 | | | 0.013 | | |
| Wood and furniture | −0.035 | −0.061 | −0.037 | | −0.015 | −0.008 | | 0.014 | −0.032 | −0.012 |
| Paper | | −0.026 | | | | −0.010 | | 0.018 | | −0.010 |
| Printing | −0.036 | −0.081 | −0.020 | −0.105 | −0.027 | −0.011 | | 0.010 | −0.022 | −0.010 |
| Chemicals and plastics | 0.024 | 0.032 | 0.031 | | 0.033 | 0.020 | 0.021 | 0.016 | 0.045 | −0.007 |
| Petroleum and coal products | | | −0.026 | −0.074 | 0.014 | 0.057 | 0.013 | 0.015 | | |
| Rubber products | | −0.028 | | −0.090 | | −0.023 | | | −0.020 | |
| Non-metallic minerals | 0.017 | 0.028 | 0.019 | | | −0.012 | 0.005 | 0.009 | 0.018 | −0.015 |
| Basic metals | | | | | −0.008 | 0.028 | | −0.058 | 0.075 | |
| Metal products | | | | | | 0.008 | −0.055 | 0.022 | −0.076 | 0.019 |
| Non-electrical machinery | −0.028 | | | | 0.025 | 0.006 | 0.042 | 0.029 | 0.025 | 0.029 |
| Electrical equipment | | | | 0.173 | | | −0.035 | 0.022 | 0.060 | 0.010 |
| Transport equipment | −0.047 | −0.030 | 0.029 | 0.125 | | 0.016 | 0.021 | 0.021 | 0.010 | −0.012 |
| Manufacturing n.e.s. | 0.015 | | | | 0.027 | 0.006 | −0.014 | −0.121 | −0.057 | |

[a] The trend equations were of the form Y = a + b·t where the dependent variable is the branch share of either constant price value added or employment, and t is time. The table shows only the b coefficients for which the t statistic is significant at 5 per cent (two-tailed test).

[b] 1970–1977.

[c] 1970–1975.

significant for output, but two thirds were significant for employment.

The number of branches with significantly changing shares ranged between 7 and 10 in each of the five countries and accounted for about 49 per cent of (1970) output in Yugoslavia and nearly 59 per cent in Greece and Spain.

TABLE 2.3.8

**Five south European countries combined: significant time trends in the branch shares of total manufacturing output and employment, 1970–1978**[a]

| | *Value added at 1970 prices* | *Total employment* |
|---|---|---|
| Food and drink | −0.019 | |
| Tobacco products | | −0.030 |
| Textiles | | |
| Clothing and footwear | 0.025 | |
| Leather | −0.053 | |
| Wood and furniture | −0.033 | −0.007 |
| Paper | −0.016 | |
| Printing | −0.045 | −0.005 |
| Chemicals and plastics | 0.020 | 0.016 |
| Petroleum and coal products | | 0.022 |
| Rubber products | −0.029 | −0.006 |
| Non-metallic minerals | 0.012 | |
| Basic metals | | |
| Metal products | | −0.013 |
| Non-electrical machinery | | 0.028 |
| Electrical equipment | 0.030 | 0.016 |
| Transport equipment | 0.019 | 0.012 |
| Manufacturing n.e.s. | | −0.049 |

*Note:* "Unweighted" means that equal weights are given to every distribution for each country.

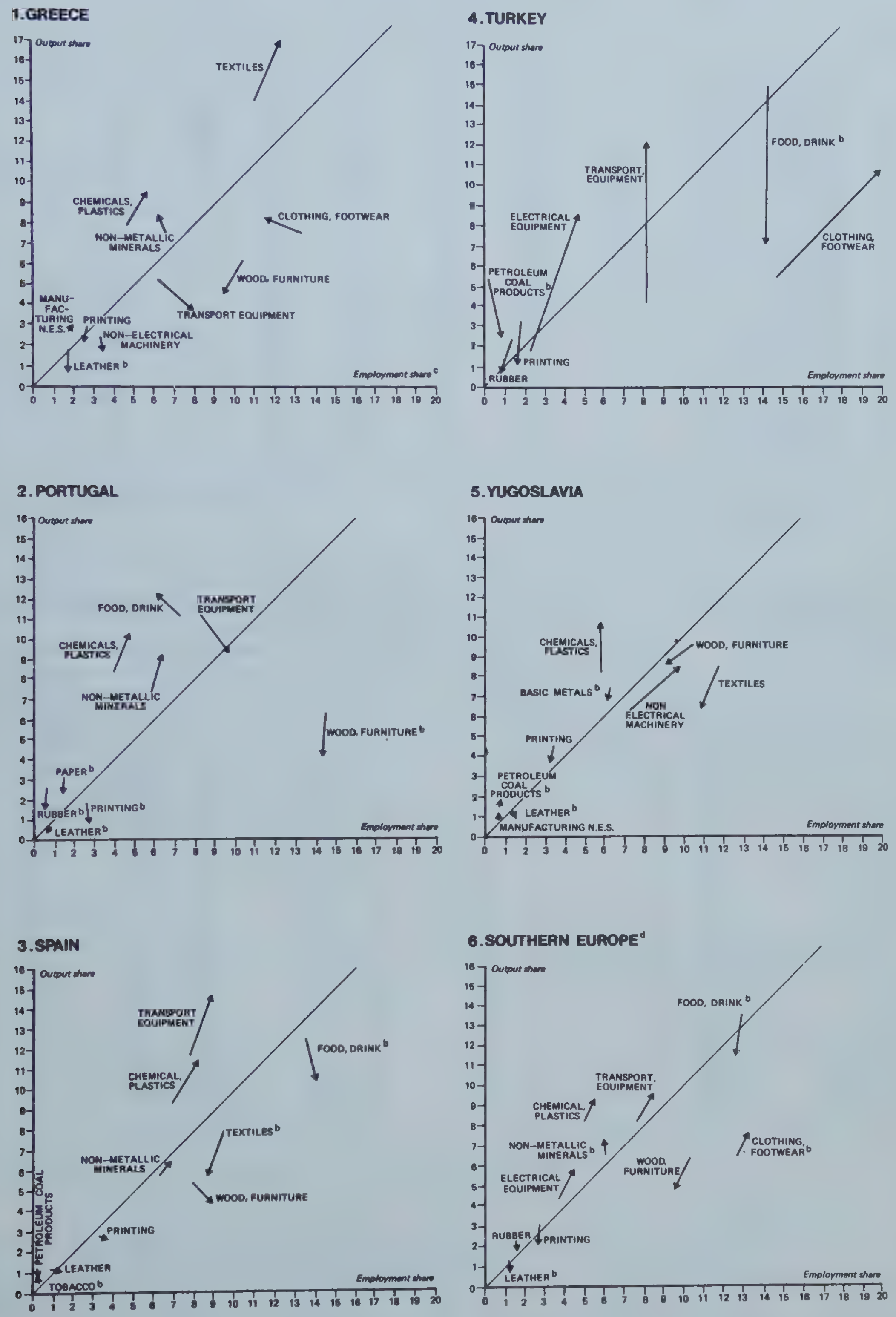
[a] As in table 2.3.7. The dependent variable in the equations of this table is the unweighted average of the i'th branch share in each of the five countries.

Table 2.3.8 shows the significant time trends in the unweighted averages of the five countries' branch shares of output and employment. For the region as a whole three sectors (clothing, chemicals, and transport equipment) dominate the branches with rising shares of output: they accounted for 62 per cent of the total increase in share. The branches with significant falls in share between 1970 and 1978 were dominated by three branches, namely, food and drink, wood and furniture, and printing. Thus changes in the structure of output tend to be concentrated in just a few branches: six out of 18 branches accounted for roughly two thirds of the changes in the output distribution between 1970 and 1978.

Chart 2.3.2 presents for each individual country and for the five taken together the extent and direction of changes in the branch shares of total output and employment for those branches for which there was a significant trend in the shares between 1970 and 1978. The 45 degree line separates those branches with above-average productivity (i.e. branches above the line) and those below average (i.e. branches below the line). With the exception of clothing, most of the relatively fast growth sectors show more than average productivity, while branches in relative decline are usually below or, during the period, cross the average productivity line. Among the most dynamic branches are textiles and chemicals in Greece, chemicals and non-metallic minerals in Portugal, transport equipment and chemicals in Spain, transport equipment, electrical equipment and clothing in Turkey, and chemicals and non-electrical machinery in Yugoslavia. Among the declining branches leather and printing are the two most common to this group of countries.

CHART 2.3.2

**Changes in the branch composition of output (value added at 1970 prices) and of employment between 1970 and 1978**[a]



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[a] The output and employment shares refer to the percentage shares of the given branch in total manufacturing output and employment respectively. The chart only shows those branches for which regression coefficient on time was significant at 5 per cent. (See table 2.3.7.)

[b] Regression coefficient on time in the time trend equation for employment is not significant.

[c] Employment shares for 1970 and 1975.

[d] Unweighted average shares of five countries.

TABLE 2.3.9

**The branch specialization of southern Europe relative to western Europe**[a]
*(Percentages)*

| | Value added at 1970 prices | | | Employment | | |
|---|---|---|---|---|---|---|
| | 1970 | 1973 | 1978 | 1970 | 1973 | 1978 |
| Food and drink | 113 | 104 | 96 | 117 | 114 | 113 |
| Tobacco | 340 | 319 | 431 | 298 | 279 | 245 |
| Textiles | 210 | 232 | 271 | 178 | 200 | 232 |
| Clothing and footwear | 162 | 199 | 255 | 176 | 192 | 229 |
| Leather | 273 | 218 | 234 | 167 | 193 | 214 |
| Wood and furniture | 116 | 99 | 88 | 143 | 134 | 134 |
| Paper | 44 | 42 | 41 | 38 | 38 | 40 |
| Printing | 65 | 62 | 48 | 56 | 54 | 51 |
| Chemicals and plastics | 81 | 77 | 77 | 69 | 73 | 71 |
| Petroleum and coal products | 148 | 160 | 115 | 86 | 97 | 100 |
| Rubber | 127 | 122 | 113 | 79 | 76 | 77 |
| Non-metallic minerals | 138 | 135 | 161 | 124 | 125 | 133 |
| Basic metals | 84 | 85 | 85 | 65 | 69 | 65 |
| Metal products | 95 | 99 | 102 | 102 | 90 | 82 |
| Non-electrical machinery | 46 | 50 | 44 | 44 | 52 | 53 |
| Electrical equipment | 57 | 62 | 63 | 50 | 53 | 52 |
| Transport equipment | 92 | 105 | 113 | 86 | 85 | 85 |
| Manufacturing n.e.s. | 236 | 185 | 194 | 195 | 157 | 135 |

[a] The ratio of the unweighted average of the shares of a given branch in each of the five south European countries to the corresponding average for nine west European countries.

TABLE 2.3.10

**The branch specialization of individual south European countries relative to western Europe, 1970 and 1978: value added at 1970 prices**[a]
*(Percentages)*

| | Greece | | Portugal | | Spain | | Turkey | | Yugoslavia | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1970 | 1978 | 1970 | 1978 | 1970 | 1978 | 1970 | 1978 | 1970 | 1978 |
| Food and drink | 138 | 141 | 95 | 102 | 106 | 87 | 133 | 59 | 92 | 92 |
| Tobacco | 320 | 378 | 69 | 92 | 76 | 106 | 1124 | 1459 | 111 | 120 |
| Textiles | 265 | 421 | 280 | 367 | 149 | 137 | 195 | 275 | 160 | 156 |
| Clothing and footwear | 193 | 276 | 85 | 121 | 241 | 305 | 137 | 364 | 156 | 210 |
| Leather | 364 | 248 | 150 | 139 | 232 | 267 | 365 | 236 | 256 | 277 |
| Wood and furniture | 112 | 83 | 114 | 71 | 97 | 76 | 79 | 55 | 176 | 155 |
| Paper | 32 | 36 | 61 | 51 | 44 | 54 | 38 | 15 | 43 | 48 |
| Printing | 62 | 49 | 40 | 22 | 59 | 60 | 67 | 23 | 98 | 85 |
| Chemicals and plastics | 80 | 78 | 83 | 85 | 93 | 94 | 71 | 36 | 80 | 89 |
| Petroleum and coal products | 142 | 179 | 66 | 67 | 78 | 58 | 352 | 159 | 103 | 113 |
| Rubber | 75 | 77 | 163 | 152 | 115 | 139 | 176 | 86 | 104 | 110 |
| Non-metallic minerals | 161 | 189 | 157 | 205 | 122 | 146 | 115 | 119 | 134 | 144 |
| Basic metals | 87 | 75 | 28 | 31 | 102 | 104 | 113 | 130 | 88 | 87 |
| Metal products | 69 | 68 | 114 | 124 | 110 | 124 | 73 | 83 | 107 | 112 |
| Non-electrical machinery | 24 | 17 | 50 | 49 | 36 | 36 | 52 | 43 | 69 | 78 |
| Electrical equipment | 62 | 48 | 65 | 57 | 55 | 49 | 25 | 93 | 76 | 70 |
| Transport equipment | 60 | 45 | 126 | 112 | 133 | 172 | 46 | 142 | 96 | 93 |
| Manufacturing n.e.s. | 230 | 199 | 526 | 444 | 233 | 181 | 115 | 71 | 76 | 74 |

[a] The ratio of each branch share of total manufacturing output in each southern country to the corresponding unweighted share in nine west European countries.

### *Patterns of relative specialization*

The measure of relative specialization used here is simply the *ratio* of a given branch share in total output in a country or group of countries to the equivalent share in another country or group of countries. Over time what is being compared are relative changes in the distribution of output and not absolute growth rates; in many cases indicators of absolute levels (for instance, per capita value added in chemicals) in two countries could be converging while the shares of the same branch in total output (or employment) in the two countries could be diverging.

Tables 2.3.9 and 2.3.10 show the specialization ratios of the south European countries in relation to

TABLE 2.3.11

**The branch specialization of individual south European countries relative to western Europe, 1970 and 1978: employment**[a]
(*Percentages*)

| | *Greece* | | *Portugal* | | *Spain* | | *Turkey* | | *Yugoslavia* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *1970* | *1978* | *1970* | *1978* | *1970* | *1978* | *1970* | *1978* | *1970* | *1978* |
| Food and drink | 171 | 167 | 64 | 54 | 120 | 121 | 136 | 131 | 92 | 93 |
| Tobacco | 449 | 525 | 57 | 74 | 82 | 82 | 648 | 541 | 254 | 201 |
| Textiles | 149 | 224 | 261 | 338 | 128 | 157 | 190 | 243 | 162 | 200 |
| Clothing and footwear | 185 | 201 | 202 | 265 | 169 | 177 | 203 | 345 | 120 | 156 |
| Leather | 245 | 302 | 88 | 108 | 128 | 196 | 194 | 218 | 180 | 246 |
| Wood and furniture | 145 | 136 | 186 | 182 | 110 | 124 | 128 | 99 | 145 | 128 |
| Paper | 37 | 36 | 35 | 36 | 36 | 43 | 30 | 33 | 53 | 51 |
| Printing | 53 | 47 | 53 | 49 | 67 | 71 | 37 | 30 | 69 | 59 |
| Chemicals and plastics | 68 | 71 | 56 | 59 | 98 | 105 | 41 | 45 | 84 | 75 |
| Petroleum and coal products | 86 | 116 | 122 | 127 | 60 | 66 | 33 | 55 | 127 | 136 |
| Rubber | 63 | 54 | 51 | 49 | 93 | 101 | 85 | 73 | 102 | 107 |
| Non-metallic minerals | 137 | 136 | 119 | 136 | 129 | 149 | 98 | 114 | 136 | 128 |
| Basic metals | 21 | 25 | 69 | 74 | 94 | 64 | 41 | 66 | 100 | 97 |
| Metal products | 93 | 92 | 98 | 59 | 92 | 98 | 134 | 60 | 91 | 104 |
| Non-electrical machinery | 33 | 32 | 41 | 61 | 40 | 44 | 34 | 38 | 74 | 92 |
| Electrical equipment | 52 | 50 | 19 | 13 | 72 | 77 | 28 | 48 | 77 | 73 |
| Transport equipment | 76 | 80 | 91 | 97 | 86 | 90 | 90 | 88 | 87 | 70 |
| Manufacturing n.e.s. | 138 | 139 | 222 | 193 | 362 | 144 | 198 | 145 | 55 | 54 |

[a] As for table 2.3.10, *mutatis mutandis.*

the unweighted pattern for nine of the more industrialized countries of western Europe. The region as a whole, in relation to the more advanced countries of industrial Europe, remains highly and increasingly specialized in several labour-intensive branches such as textiles and clothing. In general the specialization ratios in respect of western Europe have changed in the same direction as the changes in branch shares of national output, but there is one important exception, namely, chemicals for which a rising share of output and employment in southern Europe coincided with a decreasing ratio of specialization vis-à-vis western Europe.

Although the level of the specialization ratio in a given branch varies from country to country in southern Europe, the general pattern of specialization (for both output and employment) is fairly similar (tables 2.3.10 and 2.3.11). The exceptions are few (metal products, wood and furniture in Turkey, and transport equipment in Spain).

The table below shows for each individual south European country six branches: three are the ones in

**Highest and lowest specialization coefficients in relation to the average for southern Europe**

| | *Greece* | *Portugal* | *Spain* | *Turkey* | *Yugoslavia* |
|---|---|---|---|---|---|
| | | | OUTPUT | | |
| *Highest* | Textiles<br>Food and drink<br>Petrol | Rubber<br>Textiles<br>Non-metallic minerals | Transport<br>Paper<br>Printing | Tobacco<br>Basic metals<br>Electrical machinery | Printing<br>Wood and furniture<br>Electrical machinery |
| *Lowest* | Non-electrical machinery<br>Transport equipment<br>Metal products | Tobacco<br>Basic metals<br>Clothing | Tobacco<br>Petrol<br>Textiles | Paper<br>Chemicals<br>Printing | Tobacco<br>Textiles<br>Clothing |
| | | | EMPLOYMENT | | |
| *Highest* | Food and drink<br>Leather<br>Tobacco | Textiles<br>Wood and furniture<br>Petrol refining | Chemicals<br>Electrical equipment<br>Printing | Tobacco<br>Clothing and footwear<br>Food and drink | Non-electrical machinery<br>Basic metals<br>Electrical equipment |
| *Lowest* | Basic metals<br>Non-electrical machinery<br>Rubber | Electrical equipment<br>Tobacco<br>Food and drink | Tobacco<br>Petrol refining<br>Textiles | Petrol refining<br>Printing<br>Chemicals | Clothing and footwear<br>Food and drink<br>Tobacco |

### TABLE 2.3.12

### The branch specialization of individual south European countries relative to southern Europe as a whole, 1970 and 1978: value added at 1970 prices[a]

(*Percentages*)

| | *Greece* | | *Portugal* | | *Spain* | | *Turkey* | | *Yugoslavia* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *1970* | *1978* | *1970* | *1978* | *1970* | *1978* | *1970* | *1978* | *1970* | *1978* |
| Food and drink . . . . . | 122 | 146 | 85 | 106 | 94 | 91 | 118 | 61 | 81 | 96 |
| Tobacco . . . . . . . | 94 | 88 | 20 | 21 | 22 | 25 | 331 | 338 | 33 | 28 |
| Textiles. . . . . . . . | 126 | 155 | 133 | 135 | 71 | 51 | 93 | 101 | 76 | 58 |
| Clothing and footwear. . . | 119 | 108 | 52 | 47 | 148 | 120 | 85 | 143 | 96 | 82 |
| Leather. . . . . . . . | 133 | 106 | 55 | 60 | 85 | 114 | 134 | 101 | 94 | 119 |
| Wood and furniture . . . | 97 | 95 | 98 | 81 | 84 | 86 | 68 | 62 | 152 | 176 |
| Paper . . . . . . . . | 74 | 88 | 139 | 125 | 100 | 133 | 87 | 36 | 100 | 118 |
| Printing. . . . . . . . | 95 | 102 | 61 | 47 | 90 | 124 | 103 | 49 | 150 | 178 |
| Chemicals and plastics. . . | 98 | 102 | 102 | 111 | 114 | 123 | 87 | 48 | 98 | 116 |
| Petroleum and coal products | 96 | 155 | 44 | 59 | 53 | 50 | 238 | 138 | 69 | 98 |
| Rubber . . . . . . . . | 59 | 68 | 129 | 135 | 91 | 123 | 139 | 76 | 82 | 98 |
| Non-metallic minerals. . . | 117 | 118 | 114 | 128 | 89 | 91 | 83 | 74 | 98 | 90 |
| Basic metals . . . . . . | 104 | 88 | 33 | 36 | 122 | 121 | 136 | 152 | 105 | 102 |
| Metal products . . . . . | 73 | 67 | 121 | 121 | 116 | 121 | 77 | 81 | 113 | 110 |
| Non-electrical machinery . . | 51 | 38 | 108 | 110 | 79 | 80 | 114 | 96 | 149 | 176 |
| Electrical equipment . . . | 109 | 76 | 115 | 90 | 98 | 77 | 43 | 147 | 135 | 111 |
| Transport equipment . . . | 65 | 40 | 137 | 99 | 145 | 152 | 50 | 126 | 104 | 83 |
| Manufacturing n.e.s. . . . | 98 | 103 | 223 | 229 | 99 | 93 | 49 | 37 | 32 | 38 |

[a] The ratio of each branch share of total manufacturing output in each individual country to the (unweighted) average share in the five southern countries.

### TABLE 2.3.13

### The branch specialization of individual south European countries relative to southern Europe as a whole, 1970 and 1978: employment[a]

(*Percentages*)

| | *Greece* | | *Portugal* | | *Spain* | | *Turkey* | | *Yugoslavia* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *1970* | *1978* | *1970* | *1978* | *1970* | *1978* | *1970* | *1978* | *1970* | *1978* |
| Food and drink . . . . . | 146 | 147 | 55 | 48 | 103 | 107 | 117 | 116 | 79 | 82 |
| Tobacco . . . . . . . | 151 | 133 | 19 | 30 | 27 | 34 | 217 | 221 | 85 | 82 |
| Textiles. . . . . . . . | 84 | 96 | 146 | 146 | 72 | 68 | 107 | 104 | 91 | 86 |
| Clothing and footwear. . . | 105 | 88 | 115 | 116 | 96 | 77 | 116 | 151 | 68 | 68 |
| Leather. . . . . . . . | 147 | 141 | 52 | 51 | 77 | 91 | 116 | 102 | 108 | 115 |
| Wood and furniture . . . | 101 | 101 | 130 | 136 | 77 | 93 | 90 | 74 | 101 | 96 |
| Paper . . . . . . . . | 98 | 91 | 91 | 90 | 94 | 109 | 79 | 83 | 138 | 128 |
| Printing. . . . . . . . | 95 | 92 | 95 | 96 | 120 | 138 | 67 | 58 | 123 | 115 |
| Chemicals and plastics. . . | 98 | 101 | 81 | 83 | 142 | 147 | 58 | 64 | 121 | 105 |
| Petroleum and coal products | 100 | 116 | 142 | 127 | 70 | 66 | 39 | 55 | 148 | 136 |
| Rubber . . . . . . . . | 79 | 71 | 64 | 64 | 118 | 131 | 108 | 95 | 130 | 139 |
| Non-metallic minerals. . . | 111 | 103 | 96 | 103 | 104 | 112 | 79 | 86 | 109 | 97 |
| Basic metals . . . . . . | 32 | 39 | 106 | 114 | 145 | 98 | 63 | 102 | 154 | 148 |
| Metal products . . . . . | 91 | 111 | 97 | 71 | 91 | 119 | 132 | 72 | 89 | 126 |
| Non-electrical machinery . . | 75 | 61 | 92 | 114 | 89 | 82 | 77 | 72 | 166 | 172 |
| Electrical equipment . . . | 106 | 96 | 38 | 24 | 145 | 147 | 56 | 92 | 156 | 141 |
| Transport equipment . . . | 89 | 94 | 106 | 114 | 100 | 106 | 104 | 103 | 101 | 83 |
| Manufacturing n.e.s. . . . | 71 | 103 | 114 | 129 | 185 | 106 | 102 | 108 | 28 | 40 |

[a] As for table 2.3.12, *mutatis mutandis*.

which the country's manufacturing output is most specialized and another three are those in which it is least specialized in respect of southern Europe as a group.

As tables 2.3.12 and 2.3.13 indicate, a certain degree of similarity in the economic structure of the south European countries is shown by the fact that for each country the range between the highest and the lowest index is considerably narrower than the range of each country's indices with respect to the west European average. It is also of interest to compare up to what point the specialization indices with respect to the south European average are reversed for particular branches and countries when

TABLE 2.3.14

**The distribution of manufacturing output and employment in southern Europe, according to relative factor intensity, 1970 and 1978[a]**
*(Percentages of total manufacturing)*

| | 1970 | | 1978 | | 1970 | | 1978 | |
|---|---|---|---|---|---|---|---|---|
| | Output[b] | Employment | Output[b] | Employment | Output[b] | Employment | Output[b] | Employment |
| | Greece | | | | Portugal | | | |
| A | 19.3 | 8.1 | 20.1 | 9.3 | 14.9 | 10.4 | 16.4 | 11.4 |
| B | 16.3 | 17.7 | 13.2 | 18.8 | 25.1 | 17.1 | 22.9 | 20.4 |
| C | 37.9 | 46.6 | 39.2 | 45.7 | 40.6 | 59.4 | 39.6 | 55.7 |
| D | 26.5 | 27.6 | 27.5 | 26.3 | 19.4 | 13.1 | 21.9 | 12.6 |
| | Spain | | | | Turkey | | | |
| A | 21.5 | 14.7 | 23.3 | 14.3 | 24.2 | 6.9 | 18.1 | 9.3 |
| B | 23.9 | 21.9 | 27.3 | 25.1 | 16.7 | 16.6 | 27.4 | 19.4 |
| C | 35.6 | 43.6 | 31.8 | 39.9 | 29.3 | 53.8 | 33.5 | 49.1 |
| D | 19.0 | 19.9 | 17.6 | 20.7 | 29.9 | 22.7 | 21.0 | 22.2 |
| | Yugoslavia | | | | | | | |
| A | 19.4 | 15.1 | 21.9 | 14.7 | | | | |
| B | 27.2 | 26.0 | 28.0 | 27.4 | | | | |
| C | 35.2 | 41.0 | 32.0 | 40.9 | | | | |
| D | 18.2 | 17.9 | 18.1 | 17.1 | | | | |
| | Five south European countries unweighted average | | | | Nine west European countries unweighted average | | | |
| A | 19.9 | 11.0 | 20.0 | 11.8 | 25.3 | 18.0 | 26.6 | 18.7 |
| B | 21.9 | 19.8 | 23.8 | 22.2 | 32.8 | 33.0 | 34.2 | 35.6 |
| C | 35.7 | 48.9 | 35.1 | 46.3 | 24.4 | 32.6 | 22.1 | 29.7 |
| D | 22.6 | 20.3 | 21.2 | 19.8 | 17.5 | 16.4 | 17.0 | 16.1 |

[a] The four factor intensity groups are as follows: A = relatively high capital and relatively high skill intensive: B = relatively low capital but relatively high skill intensive: C = relatively low capital and relatively low skill intensive: and D = relatively high capital but relatively low skill. For fuller explanation, see text.

[b] Value added at 1970 prices.

compared with western Europe. In 1978 there are four branches where such a reversal occurs in Spain, namely, paper and printing, where there is a low specialization index of output with respect to western Europe but high relative to southern Europe, and tobacco and textiles where the contrary applies. In Yugoslavia such specialization "reversals" occur in five branches; in two, printing and non-electrical machinery, Yugoslavia is specialized relative to the other south European countries but not in respect to western Europe, while in tobacco, textiles and clothing, the reverse case applies. In Greece there are no such reversals, while in Portugal and Turkey there is only one in each country—clothing in the former (low specialization with respect to southern Europe, but high with respect to western Europe), and electrical equipment in the latter.

For employment as for output, the more advanced character of the manufacturing sector in Spain and Yugoslavia is reflected in a greater specialization of these countries in the more technologically advanced industries (machinery, chemicals) in contrast to relatively low specialization in lower technology industries, such as textiles, tobacco, clothing and food. The specialization indices based on employment differ considerably from those based on output: only 14 of the 30 sectors listed in the previous text table coincide with both indices above or both below 100. This may be due to the existence of wide discrepancies in relative productivity among these countries, but the employment data are probably less reliable than the output data and the time series is insufficient to draw firm conclusions on this point.

### *Relative factor intensity and the structure of manufacturing*

The branch distribution of output and employment in each country was re-arranged into four groups according to the classification used in previous secretariat studies.[189] The measure of the *physical capital intensity* of each branch was derived from a combination of several indicators (investment per worker, investment as a ratio of labour cost, profits per worker, and the ratio of profits to labour cost), while the relative skill intensity of each branch was taken to be represented by average relative pay per worker.[190] By expressing the value of each measure for each branch as a ratio of the respective

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[189] *Structure and Change in European Industry* and *Economic Bulletin for Europe*, volume 33, No. 4, chap. 4, Pergamon Press for the United Nations, December 1981.

[190] The actual data used here were taken from *Structure and Change in European Industry*, chap. 2, p. 67.

TABLE 2.3.15

**The relative factor intensity of manufacturing output in southern Europe compared with western Europe, 1970 and 1978[a]**
*(Percentages)*

| | *Greece* | *Portugal* | *Spain[b]* | *Turkey* | *Yugoslavia* | *Average* |
|---|---|---|---|---|---|---|
| 1970 | | | | | | |
| A . . . | 76.2 | 58.9 | 84.9 | 95.7 | 76.5 | 74.5 |
| B . . . | 49.8 | 76.6 | 73.0 | 50.8 | 83.0 | 66.6 |
| C . . . | 155.3 | 166.4 | 145.7 | 119.9 | 144.4 | 146.4 |
| D . . . | 151.4 | 110.7 | 108.7 | 170.8 | 103.9 | 129.1 |
| 1978 | | | | | | |
| A . . . | 75.5 | 61.5 | 87.6 | 68.0 | 82.3 | 75.0 |
| B . . . | 38.5 | 67.0 | 79.8 | 80.2 | 82.0 | 69.5 |
| C . . . | 177.5 | 179.0 | 144.0 | 151.4 | 144.6 | 158.6 |
| D . . . | 161.9 | 128.9 | 103.4 | 123.5 | 106.7 | 124.9 |

[a] The shares of the four factor intensity groups in south European manufacturing output (as given in table 2.3.14) as a percentage of the corresponding average shares in nine west European countries.

[b] 1977.

average for manufacturing industry as a whole, each branch can be allocated to one of four groups: (A) that containing branches with above-average physical capital per head and above-average skills; (B) above-average skills but below-average capital intensity; (C) contains the traditional unskilled labour-intensive industries, i.e. below-average skills and capital intensity; and (D) branches with relatively low skill but relatively high capital intensity.

Table 2.3.14 shows the distribution of manufacturing output and employment in southern Europe, according to this classification, in 1970 and 1978. The share of group A (high capital and skill) in output has increased in Portugal, Spain and Yugoslavia (in Greece it remained virtually unchanged); its share of employment increased in Greece, Portugal and Turkey. Chemicals was in every case the major influence in the relative expansion of output in this group. In the case of Turkey the output share was influenced by large falls in the shares of petroleum, chemicals and basic metals, but these partly reflect short-term factors (bottlenecks, plant breakdowns, strikes) as is suggested by the increase in the share of this group in total employment.

The share of group B (low capital, high skill) branches has risen in Spain, Turkey and Yugoslavia, but in Greece and Portugal it fell, strongly influenced in both cases by the general crisis in shipbuilding. The share of group B branches in total employment increased in all five countries.

The share of employment in the traditional labour-intensive industries (group C) has tended to fall (Spain, Portugal and Turkey) or remain relatively stable (Greece and Yugoslavia). The group's share of output has also fallen in Spain, Yugoslavia and Portugal, but has risen in Greece and, especially, Turkey, due to the expansion of textiles and clothing.

In group D (high capital and low skill) industries the changes have been diverse, the most common being (except for Spain) a decline in the share of total employment. The group's share of output increased in Greece and Portugal and fell in Turkey and Yugoslavia. If the food processing industry were re-classified to group C (which might be a more realistic description of this industry in southern Europe), the fall in the employment share would be accentuated.

Leaving aside Turkey, the structure of manufacturing output in southern Europe has generally moved towards the higher skill and more capital intensive industries, the move towards the latter being less marked than towards the first. The exceptions to this general movement seem in general to be due to short-term factors (for example, transport equipment and non-metallic minerals in Greece and Portugal). The only examples of increasing output specialization in the low capital and low skill branches are for textiles and clothing in Greece and Turkey.

A comparison of the structure of output, in terms of relative factor intensity, in southern Europe and in the more industrialized countries of western Europe is given in table 2.3.15.

As far as A type industries are concerned their relative importance in southern Europe is, on average, some 25 per cent less than in western Europe, although in Portugal, Spain and Yugoslavia, they have moved closer to west European shares. Group B industries are also relatively much smaller in southern Europe than in western Europe, and the difference has widened in Greece, Portugal and Yugoslavia.

The importance of the unskilled labour-intensive industries (group C) is very much larger in southern Europe: their share of manufacturing output ranges from 44 per cent larger than western Europe in Spain to about 80 per cent larger in Greece and Portugal. The relative importance of this group of branches has increased in Greece, Portugal and Turkey between 1970 and 1978.

Group D industries are also relatively more important in southern Europe, although in Spain and

**Indices of structural change and of consistency, in total manufacturing, 1970–1978**

| | *Index of structural change* | | | *Index of consistency* | | |
|---|---|---|---|---|---|---|
| | *Value added* | | | *Value added* | | |
| | *At current prices* | *At 1970 prices* | *Total employment* | *At current prices* | *At 1970 prices* | *Total employment* |
| Greece | 8.0 | 7.5 | 4.5[a] | 0.30 | 0.34 | 0.67[a] |
| Portugal | 9.2 | 6.3 | 6.0 | 0.37 | 0.29 | 0.59 |
| Spain | 8.8 | 6.9 | 7.6 | 0.41[b] | 0.45[b] | 0.48 |
| Turkey | 21.9 | 22.5 | 11.2 | 0.41 | 0.42 | 0.55 |
| Yugoslavia | 6.7 | 5.5 | 5.0 | 0.25 | 0.48 | 0.49 |
| Southern Europe | 6.2 | 6.2 | 6.9[a] | 0.35 | 0.39 | 0.56 |
| Western Europe[c] | 5.4 | 4.9 | 4.2 | 0.32 | 0.42 | 0.72 |

[a] 1970–1975 for Greece.
[b] 1970–1977 for Spain.
[c] Belgium, Finland, France, the Federal Republic of Germany, Italy, Netherlands, Norway, Sweden, United Kingdom.

Yugoslavia the shares are not very much larger than the west European average. Compared with western Europe the importance of this branch has increased in Greece, Portugal and, marginally, in Yugoslavia.

Adding up groups A and D (both high capital sectors) it can be seen that in 1978 their output shares in total output in western and southern Europe did not differ much (44 and 41 per cent respectively). The main difference between the two regions is not in the "high capital" but in the "high skill" branches: the average output share of groups A and B in the western countries was some 60 per cent compared with 44 per cent in southern Europe.

### *A summary measure of structural change*

"Structural change" is defined here as changes in the percentage distribution of a given variable (such as output or employment) among the (18) manufacturing branches selected for study.[191] Due to the shortness of the time series available, no attempt has been made here to isolate permanent from cyclical changes in structure. In previous secretariat studies[192] use was made of a simple but unambiguous measure of change based simply on the sum of the differences of branch shares between two given periods, namely:

$$C = \sum_i (a_{i2} - a_{i1}), \text{ for all } a_{i2} > a_{i1}$$

where $a_i$ is the percentage share of branch i in total manufacturing output or employment in periods 1 and 2 respectively. The index of structural change (C) is measured in percentage points. The mirror image of C is also widely used and can be interpreted as a measure of similarity between any two structures:

$$S = 100 - C.$$

The value of the similarity index (S) lies between 100, which indicates no structural change or, alternatively, perfect similarity of two structures, and zero, which indicates complete dissimilarity or a total reversal of structure in the relevant period.

It is of course evident that over time a given distribution of output or employment may fluctuate because of cyclical or other short-term factors. It is therefore useful to measure the degree to which the changes that have occurred between the end-years of a given period have been "consistent", in the sense that they have been due to a more or less continuous rise (or fall) in branch shares, or whether, between the two end-years, there have been off-setting fluctuations. The index of "*consistency*" is calculated by dividing the index of structural change between the end-years by the sum (irrespective of sign) of the year-to-year changes (in percentage points). Perfect "consistency" would yield an index with the value of 1.00. Year-to-year fluctuations in branch shares would increase the size of the denominator, and so values lower than 1 would indicate a lower "consistency" in the degree of structural change between the end-years of the given period.

The table above shows the indices of structural change and of consistency for the south European countries and table 2.3.16 the degree of similarity between the structure of manufacturing output in individual southern countries and between the average structures of southern and western Europe. The highest index of structural change is in Turkey, the least industrialized country in the region; the indices for both Iberian countries and Greece are about the same, while Yugoslavia shows a rather lower index of change.

In the two countries with the highest and lowest indices of structural change the trend rate of growth of output has been fairly close so, as in western Europe, it would seem that the extent of structural change does not appear to be closely correlated, at least in the short run, to output growth.

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[191] Definitions according to ISIC classification are the same as those used in *Economic Survey of Europe in 1980*, chap. 4, p. 236.

[192] *Structure and Change in European Industry* and *Economic Survey of Europe in 1980*, chap. 4.

TABLE 2.3.16

**Coefficients of similarity between the structures of manufacturing output and employment of southern Europe, 1970, 1973 and 1978**[a]

| | | *Output at 1970 prices* | | | *Employment* | | |
|---|---|---|---|---|---|---|---|
| | | *1970* | *1973* | *1978*[b] | *1970* | *1973* | *1978*[c] |
| Greece with: | Yugoslavia | 81.8 | 80.8 | 74.9 | 83.8 | 85.7 | 83.9 |
| | Portugal | 80.3 | 78.4 | 79.2 | 80.6 | 77.1 | 77.9 |
| | Turkey | 83.3 | 80.1 | 70.0 | 87.5 | 87.3 | 85.4 |
| | Spain | 83.3 | 77.7 | 75.7 | 86.0 | 88.7 | 87.2 |
| | Southern Europe | 90.7 | 88.0 | 85.2 | 91.0 | 91.3 | 91.8 |
| | Western Europe | 74.4 | 73.2 | 67.7 | 74.1 | 75.7 | 73.0 |
| Yugoslavia with: | Portugal | 81.8 | 79.5 | 79.1 | 80.5 | 79.9 | 77.2 |
| | Turkey | 77.5 | 80.3 | 72.0 | 80.5 | 79.9 | 77.2 |
| | Spain | 87.0 | 87.3 | 85.4 | 88.0 | 87.3 | 88.2 |
| | Southern Europe | 89.7 | 89.9 | 87.4 | 89.0 | 89.6 | 88.3 |
| | Western Europe | 87.2 | 87.0 | 87.3 | 87.5 | 86.1 | 86.1 |
| Portugal with: | Turkey | 71.0 | 73.8 | 68.9 | 84.1 | 80.7 | 80.7 |
| | Spain | 83.1 | 81.3 | 79.8 | 81.0 | 79.6 | 76.6 |
| | Southern Europe | 84.9 | 88.4 | 85.8 | 87.6 | 85.2 | 85.0 |
| | Western Europe | 77.5 | 76.2 | 75.0 | 71.9 | 71.8 | 68.4 |
| Turkey with: | Spain | 77.7 | 80.3 | 75.9 | 82.0 | 86.7 | 82.3 |
| | Southern Europe | 84.1 | 87.2 | 81.0 | 89.9 | 90.6 | 88.9 |
| | Western Europe | 73.5 | 76.1 | 68.5 | 72.4 | 74.0 | 70.7 |
| Spain with: | Southern Europe | 89.3 | 87.8 | 86.7 | 90.7 | 92.1 | 90.1 |
| | Western Europe | 83.8 | 82.4 | 79.9 | 84.9 | 83.4 | 84.5 |

[a] The coefficient of similarity (S) between two output or employment structures is defined as $S = 100 - C$ where $C = (ai_2 - ai_1)$, for all $ai_2$ $ai_1$, where ai is the percentage share of branch i in total output or employment in periods (or countries) 1 and 2 respectively. The comparisons with southern and western Europe are with the unweighted average shares of five and nine countries respectively.

[b] The 1977 distribution is used for Spain.

[c] The 1975 distribution is used for Greece.

Table 2.3.16 reveals a mild but growing dissimilarity in the national structures of output and employment. The few exceptions include the unchanged degree of similarity between the Yugoslav output pattern and that of western Europe, and that of Portugal with southern Europe. The 1975 employment pattern of Greek manufacturing was close to the south European average and Spain's to that of western Europe. In 1978 the most similar pairs of countries in terms of the structure of output were Spain–Yugoslavia, Portugal–Spain, Greece–Portugal, and Spain–Turkey; the least similar were Portugal–Turkey and Greece–Turkey.

### *Summary*

This brief survey of changes in the structure of manufacturing output and employment in southern Europe has discussed in some detail movements in the relative importance of individual industries in each country. However, two broad conclusions might be emphasized here. The first is that the degree of structural change, in the 18-branch distribution of the variables considered in this note, appears to have been greater in southern than in western Europe. However, this statement needs to be qualified insofar as fluctuations in the movement of relative branch shares of output and employment have been relatively large for both groupings of countries although, with the exception of value added at current prices, they were largest in southern Europe. Taking account of all the individual countries of southern and western Europe,[193] Yugoslavia emerges as the country with the lowest degree of structural change in the period 1970–1978, lower than Italy which showed the least change among the western countries.[194] However, southern Europe also includes one country, Turkey, for which the index shows a higher rate of structural change than any of the more industrialized countries. If Yugoslavia is ignored, then the degree of structural change in southern Europe between 1970–1978 appears to be somewhat greater than in the more industrialized countries of western Europe.

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[193] Data for the latter group were taken from *Economic Survey of Europe in 1980*, chap. 4.

[194] It should be emphasized that measures of structural change apply to a given level of aggregation of the basic data. In this note manufacturing industry was divided into 18 branches; if the disaggregation had been finer, then the indices of structural change are likely to have been different.

The second point is that although there are large inter-country differences in the movement of individual branches, there is nevertheless a general tendency for south European manufacturing industry to shift towards branches which are relatively skill-intensive and also, although less markedly, towards the more capital-intensive branches. However, this shift in the structure of manufacturing output has not been large enough to upset the pattern of relative branch specialization between southern and western Europe: thus, for example, although the chemical industry has grown relatively fast in southern Europe, it has grown still faster in western Europe, so that the relative importance of this industry in total manufacturing in the two regions has continued to diverge. In some cases (for example, non-metallic minerals) the shift towards more capital-intensive industries may in fact reflect inflexibility in adjusting the structure of output to higher energy costs or insufficient attention to the social costs of pollution and other environmental hazards. However, although the shift from lower- to higher-skill industries is more clear-cut, the structure of manufacturing output in southern Europe is still dominated by unskilled labour intensive industries and, therefore, the difference in structure between southern and western Europe at the end of the 1970s remained very large.

## CHAPTER 3

# RECENT ECONOMIC DEVELOPMENTS AND FIVE-YEAR PLANS IN EASTERN EUROPE AND THE SOVIET UNION

## 1. GENERAL DEVELOPMENTS

### (i) Main outcomes of economic development 1976–1980

Economic developments in eastern Europe and the Soviet Union during the years 1976–1980 occurred within the framework of the global directives defined in the five-year plans adopted in all countries concerned at the beginning of the period. The plans incorporated objectives which took into account the changes in the domestic and international conditions of economic growth.[195] Though there were a number of differences originating in the varying levels of global economic development and the specific characteristics of individual countries, the strategies of economic developments in the five-year plans of Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania and the Soviet Union did have important common features.

All countries of eastern Europe and the Soviet Union, at first, place their economic development in the framework of the programmes of general *social development* and, in particular, of programmes for continuous increases in the material and cultural level of the population. Secondly, the strategies of economic and social development were oriented to *long term problems*, going beyond a time horizon of five years. Thirdly, the central orientation of the five-year plans for 1976–1980, shifted from fast and even accelerated development towards the attainment of *balanced economic growth*, aimed at redressing structural imbalances accumulated over many years of extensive economic development in most countries of the region. This was seen as a necessary condition for achieving not only balanced social development, but also a stable and continuous pattern of output growth. In the second half of the 1970s, developments in many areas took place in conformity with the strategies described above. At the same time, the rapid changes in the economic climate inevitably called for solutions involving adjustments to planned objectives.

A comprehensive evaluation of development in the centrally planned economies during 1976–1980 should relate actual trends to international and historical criteria; a comparison with the original objectives of the plan gives insight into the nature and magnitude of growth determinants and constraints as they developed over the period under review.

Economic growth in the world economy was on a downward trend throughout the period under review, and the countries of the region were not exempt from this experience. Their performance nonetheless remained above the world average, if by a smaller margin than in earlier periods. The aggregate average annual rate of growth of *net material product* (NMP) for the region (table 3.1.1.) was 4.1 per cent, giving a level of global output by 1980 more than 22 per cent higher than in 1975. Despite individual country differences, the general trend was similar for both eastern Europe as a whole and for the Soviet Union, for which the corresponding average annual increments were 3.9 and 4.2 per cent respectively.

If Poland, which experienced very specific difficulties during the period, is excluded from the calculations, the growth rate for eastern Europe rises to 5 per cent annually, which is more than one point above the world average. The respective figure for the region as a whole is 4.4 per cent, also above the world average.

The aggregate average annual rates of growth, however, cover considerable divergencies between countries, which can be seen from table 3.1.1 and chart 1.1.1. This is so even between countries other than Poland.

The spread of highest-to-lowest rates of NMP growth in the other countries, which at 2:1 was already rather high in 1971–1975 (a range between 11.3 per cent for Romania and 5.4 per cent for the German Democratic Republic) increased to some 2.25:1 for 1976–1980 (7.2 per cent for Romania compared with 3.2 per cent for Hungary). If Poland, where growth was recorded as 1.2 per cent, is taken into account, the ratio rises to 6:1. The highest rate of growth in 1976–1980, as in 1971–1975, was recorded by Romania, followed by Bulgaria (6.1 per cent), the Soviet Union (4.2 per cent), the German Democratic Republic (4.1 per cent), Czechoslovakia (3.7 per cent) and Hungary (3.2 per cent). In the Byelorussian and Ukrainian SSRs, where NMP growth attained average annual rates of 5.0 per cent and 3.4 per cent, performance fell within the range noted above.

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[195] For detailed presentation of the five-year plans for 1976–1980 in eastern Europe and the Soviet Union see *Economic Survey of Europe in 1976*, Part II, United Nations, New York, 1977.

TABLE 3.1.1.

### Changes in growth of the net material product

*(Annual percentage change)*

| | Net material product (billions of national currency units) at current prices | Net material product | | Gross output | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Agriculture[a] | | Industry | | Construction[b] | |
| | | Plan | Actual | Plan | Actual | Plan | Actual | Plan | Actual |
| *Bulgaria* | | | | | | | | | |
| 1976–1980 | | 7.7 | 6.1 | 3.7 | 2.1 | 9.2 | 6.0 | . . | 5.9 |
| 1981–1985 | | 3.7 | | 3.4 | | 5.1 | | . . | |
| 1976 | 15.1 | 9.0 | 6.5 | 5.0 | 4.1 | 9.2 | 6.8 | 8.0 | 3.3 |
| 1977 | 15.5 | 8.2 | 6.3 | 4.0 | −4.6 | 9.2 | 6.8 | . . | 15.7 |
| 1978 | 16.3 | 6.8 | 5.6 | 5.0 | 4.3 | 7.7 | 6.9 | 6.6 | −2.2 |
| 1979 | 17.7 | 7.0 | 6.6 | 7.0 | 6.0 | 7.8 | 5.4 | . . | 2.9 |
| 1980 | 20.5 | 5.7 | 5.7 | 3.7 | −4.5 | 6.3 | 4.0 | . . | 3.6 |
| 1981 | 22.0 | 5.1 | 4.0–5.0* | 4.7 | 4.0 | 5.6 | 5.6 | . . | |
| 1982 | | 3.6 | | 2.2 | | 4.5 | | | |
| *Czechoslovakia* | | | | | | | | | |
| 1976–1980 | | 4.9 | 3.7 | 2.7–2.8 | 1.8 | 5.7–6.0 | 4.5 | 6.2–6.5 | 3.0 |
| 1981–1985 | | 2.0–2.6 | | 1.8–2.2 | | 2.7–3.4 | | | |
| 1976 | 418.2 | 5.0 | 4.1 | 5.3 | −2.4 | 5.4 | 5.1 | 6.7 | 3.4 |
| 1977 | 415.0 | 5.2 | 4.2 | 8.2 | 9.1 | 5.3 | 5.5 | 6.2 | 3.5 |
| 1978 | 437.1 | 4.9 | 4.2 | 3.4 | 2.6 | 5.0 | 5.0 | 6.1 | 3.7 |
| 1979 | 460.7 | 4.3 | 3.0 | 3.8 | −4.2 | 4.5 | 3.7 | 5.8 | 2.5 |
| 1980 | 480.1 | 3.7 | 2.9 | 7.2 | 6.1 | 4.0 | 3.3 | 3.8 | 1.9 |
| 1981 | | 2.8 | 0.2* | 2.6 | −3.4 | 2.7 | 2.0 | 2.8 | −1.4* |
| 1982 | | 0.5* | | 3.2 | | 0.6* | | | |
| *German Democratic Republic* | | | | | | | | | |
| 1976–1980 | | 5.0 | 4.1 | 2.6 | 1.1 | 6.0 | 4.9 | 5.0 | 3.3 |
| 1981–1985 | | 5.1 | | 1.1 | | 5.1 | | 3.4 | |
| 1976 | 147.5 | 5.3 | 3.6 | 1.4 | −5.3 | 6.0 | 5.9 | 6.3 | 6.4 |
| 1977 | 155.2 | 5.5 | 5.2 | 2.8 | 7.1 | 5.1 | 5.4 | 6.2 | 5.3 |
| 1978 | 160.8 | 5.2 | 3.6 | 3.5 | 1.4 | 5.7 | 3.7 | 5.7 | 2.6 |
| 1979 | 166.9 | 4.3 | 3.8 | 1.3 | 2.8 | 5.5 | 4.8 | 2.9 | −0.5 |
| 1980 | 173.9 | 4.8 | 4.2 | 0.5[c] | 0.5 | 4.7 | 4.7 | 5.3 | 1.4 |
| 1981 | 182.6 | 5.0 | 5.0 | 0.8[c] | 3.0* | 5.0 | 5.1 | 2.8 | 2.5 |
| 1982 | 191.3* | 4.8 | | 0.2[c] | | 4.6 | | 2.5 | |
| *Hungary* | | | | | | | | | |
| 1976–1980 | | 5.4–5.7 | 3.2 | 3.2–3.4 | 2.9 | 6.0 | 3.4 | 5.5–6.0 | 2.4 |
| 1981–1985 | | 2.6–3.2 | | 2.3–2.8 | | 3.5–4.0 | | 2.1–2.7 | |
| 1976 | 432.4 | 5.0–5.5 | 3.0 | 4.0 | −2.7 | 6.0 | 4.6 | 5.0–5.5 | 4.6 |
| 1977 | 476.0 | 6.0–6.5 | 8.0 | 7.0–8.0 | 10.3 | 6.0 | 6.6 | 5.0–5.5 | 6.4 |
| 1978 | 513.1 | 5.0 | 4.2 | 2.0–3.0 | 2.0 | 5.5–6.0 | 4.9 | 4.0–5.0 | 3.7 |
| 1979 | 554.3 | 3.0–4.0 | 1.9 | 3.0–3.5 | −1.1 | 4.0 | 3.0 | 1.0 | 0.8 |
| 1980 | 581.0 | 3.0–3.5 | −0.8 | 5.0–5.5 | 4.3 | 3.5–4.0 | −2.1 | 3.0–2.5 | −3.0 |
| 1981 | | 2.0–2.5 | 1.8 | 3.0 | 0.0 | 3.3 | 2.3 | −1.0 | −3.5 |
| 1982 | | 1.0–1.5 | | 4.0–4.5 | | 2.0–2.5 | | (−1.0)–(−2.0) | |
| *Poland* | | | | | | | | | |
| 1976–1980 | | 7.0–7.3 | 1.2 | 3.0–3.5 | 0.5 | 8.2–8.5 | 4.7 | 7.4–7.7 | −0.7 |
| 1981–1985 | | | | | | | | | |
| 1976 | 1 593.3 | 8.3 | 6.8 | 5.9 | −1.1 | 8.8 | 9.3 | 4.2 | 6.6 |
| 1977 | 1 736.1 | 5.7 | 5.0 | 5.3 | 1.4 | 6.3–7.3 | 6.9 | 6.6 | 3.1 |
| 1978 | 1 902.6 | 5.4 | 3.0 | 4.5 | 4.1 | 6.8 | 4.9 | . . | 4.2 |
| 1979 | 1 935.4 | 2.8 | −2.3 | 3.9–4.8 | −1.5 | 4.9 | 2.7 | . . | −4.7 |
| 1980 | 1 936.2 | 1.4–1.8 | −6.0 | 5.8 | −10.7 | 3.0–4.2 | 0.0 | . . | −11.2 |
| 1981 | | −3.7[d] | −13.0 | 5.0[d]* | 4.1 | 0.0[d] | −12.6[e] | | −20.0 |
| 1982 | | −1.6* | | 5.0* | | 0.6* | | | |
| *Romania* | | | | | | | | | |
| 1976–1980 | | 10.0–11.0 | 7.2 | 5.1–7.6 | 4.9 | 10.2–11.2 | 9.5 | . . | 5.8 |
| 1981–1985 | | 7.1 | | 4.5–5.0 | | 7.6 | | 8.8 | |
| 1976 | 400.0 | 10.5 | 10.5 | 15.0–26.6 | 17.4 | 10.2 | 11.4 | . . | 5.7 |
| 1977 | 431.7 | 11.3 | 9.0 | 1.9–13.6 | −0.9 | 10.5 | 12.5 | 20.4 | 10.3 |
| 1978 | 464.3 | 11.0–11.5 | 7.4 | 6.9–16.1 | 3.3 | 10.6 | 9.6 | 8.8 | 10.7 |
| 1979 | 449.3 | 8.8 | 6.2 | 5.1–5.6 | 5.5 | 11.3 | 8.0 | 8.3 | 3.0 |
| 1980 | 516.4 | 8.8 | 2.9 | 4.7–6.0 | −4.1 | 11.4 | 6.1 | . . | −0.8 |
| 1981 | | 7.0 | 2.1 | 9.0[c] | −0.9 | 8.1 | 2.6 | | |
| 1982 | | 5.5 | | 6.0–7.9 | | 5.6[f] | | | |

TABLE 3.1.1. (*continued*)

| | Net material product (billions of national currency units) at current prices | | | Gross output | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Net material product | | Agriculture[a] | | Industry | | Construction[b] | |
| | | Plan | Actual | Plan | Actual | Plan | Actual | Plan | Actual |
| ***Soviet Union*** | | [g] | | | | | | | |
| 1976–1980 | | 4.7 | 4.2 | 3.0 | 1.7 | 6.3 | 4.5 | . . | 2.1 |
| 1981–1985 | | 3.4 | | 2.5 | | 4.7 | | | |
| 1976 | 385.7 | 5.4 | 5.9 | 7.3 | 6.5 | 4.3 | 4.8 | 5.1 | 2.6 |
| 1977 | 405.6 | 4.1 | 4.5 | 5.3 | 4.0 | 5.6 | 5.7 | 6.5 | 3.3 |
| 1978 | 426.3 | 4.0 | 5.1 | 6.8 | 2.7 | 4.5 | 4.8 | 4.1 | 3.0 |
| 1979 | 440.6 | 4.3 | 2.2 | 5.8 | −3.1 | 5.7 | 3.4 | . . | 0.6 |
| 1980 | 458.5 | 4.0 | 3.5 | 8.8 | −2.5 | 4.5 | 3.6 | . . | 1.1 |
| 1981 | 474.0* | 3.4 | 3.2* | 11.7 | −2.0 | 4.1 | 3.4 | . . | |
| 1982 | | 3.0 | | 10.2[h] | | 4.7 | | | |
| ***Byelorussian SSR*** | | | | | | | | | |
| 1976–1980 | | 6.0 | 5.0 | 2.3 | 1.6 | 7.4 | 7.2 | . . | 0.8 |
| 1981–1985 | | 4.3 | | 2.1 | | 5.1 | | | |
| 1976 | | 5.5 | 6.0 | 2.2 | 6.2 | 6.1 | 7.0 | 3.6 | 2.6 |
| 1977 | | 5.8 | 5.0 | 2.9 | −1.6 | 6.3 | 8.3 | 4.4 | 4.0 |
| 1978 | | 6.0 | 7.5 | 4.8 | 6.8 | 6.1 | 7.8 | 6.2 | 3.0 |
| 1979 | | 6.0 | 3.0 | 3.6 | −5.0 | 6.2 | 6.9 | . . | −3.2 |
| 1980 | | 7.0 | 3.6 | 3.8 | −10.4 | 5.9 | 6.0 | . . | −1.4 |
| 1981 | | 3.9 | 5.0 | 18.9 | 9.8 | 4.1 | 4.5 | . . | |
| 1982 | | 4.2 | | 9.3 | | 4.3 | | . . | |
| ***Ukrainian SSR*** | | | | | | | | | |
| 1976–1980 | | 4.9 | 3.4 | 2.5 | 1.6 | 5.9 | 3.9 | . . | 0.4 |
| 1981–1985 | | 3.6 | | 2.3 | | 4.2 | | . . | |
| 1976 | 69.8 | 4.5 | 6.0 | 7.9 | 10.8 | 4.1 | 4.1 | 6.9 | 4.8 |
| 1977 | 72.9 | 4.8 | 4.7 | 4.3 | 5.2 | 5.3 | 5.7 | 4.1 | 2.1 |
| 1978 | 75.7 | 4.3 | 4.5 | 4.0 | 0.7 | 4.7 | 4.5 | 3.2 | −0.4 |
| 1979 | 76.4 | 4.2 | 1.0 | 4.5 | −6.1 | 5.2 | 3.0 | | −2.0 |
| 1980 | 77.1 | 3.5 | 1.0 | 10.1 | −5.2 | 4.0 | 2.2 | | −2.1 |
| 1981 | 80.0 | 3.8 | 3.0 | 16.9 | 1.7 | 3.5 | 3.0 | | |
| 1982 | | 3.6 | | | | 4.0 | | | |
| ***Eastern Europe*** | | | | | | | | | |
| 1976–1980 | | 6.6 | 3.7 | 3.6 | 1.9 | 6.4 | 5.6 | | |
| 1981–1985 | | 3.8 | | 2.9 | | | | | |
| 1976 | | 7.0 | 5.7 | 7.0 | 1.3 | 7.4 | 7.7 | | |
| 1977 | | 6.6 | 5.8 | 5.9 | 3.1 | 6.7 | 7.0 | | |
| 1978 | | 6.1 | 4.3 | 5.3 | 3.1 | 6.7 | 5.7 | | |
| 1979 | | 4.6 | 2.3 | 4.1 | 0.6 | 6.0 | 4.5 | | |
| 1980 | | 4.2 | 1.1(3.2[i]) | 4.8 | −3.7(0.1[i]) | 5.2 | 3.0(4.3[i]) | | |
| 1981 | | 2.8(5.0[i]) | −1.3(2.8[i]) | 4.5 | 1.6(0.9[i]) | 3.9 | −1.0(3.6[i]) | | |
| 1982 | | 2.4(3.6[i]) | | 4.1 | | 2.8 | | | |
| ***Soviet Union and Eastern Europe*** | | | | | | | | | |
| 1976–1980 | | 5.3 | 4.1 | 3.2 | 1.7 | 6.3 | 4.9 | | |
| 1981–1985 | | 3.5 | . . | 2.6 | . . | . . | . . | | |
| 1976 | | 5.9 | 5.9 | 7.4 | 4.7 | 5.2 | 5.6 | | |
| 1977 | | 4.8 | 4.8 | 5.5 | 3.7 | 5.9 | 6.1 | | |
| 1978 | | 4.6 | 4.8 | 6.2 | 2.9 | 5.1 | 5.1 | | |
| 1979 | | 4.4 | 2.4 | 5.2 | −1.8 | 5.7 | 3.7 | | |
| 1980 | | 4.1 | 3.0(3.4[i]) | 7.4 | −2.9(−1.8[i]) | 4.7 | 3.4(3.7[i]) | | |
| 1981 | | 3.2 | 1.9(3.1[i]) | 9.2 | −0.8(−1.2[i]) | 4.0 | 2.1(3.4[i]) | | |
| 1982 | | 2.8(3.2[i]) | | 8.1 | | 4.2 | | | |

*Sources:* National statistics, plans and plan fulfilment reports.

*Note:* Throughout chapter, unless otherwise stated, average annual percentage changes over five year periods are average annual percentage changes between final year of period shown and final year of the previous five-year period.

[a] For five-year periods average annual percentage changes on the basis of previous five-year period total.

[b] Sitework. See footnote [a] to table 3.4.7.

[c] Net output. For German Democratic Republic includes food processing.

[d] Data refer to targets of the draft plan, at current prices, as reported in *Trybunu Ludu*, 20 December 1981, p. 2 and 15 January 1982, p. 3.

[e] Sales current prices.

[f] Net output.

[g] Distributed NMP.

[h] On the basis of 1976–1980 average annual output.

[i] Excluding Poland.

CHART 3.1.1

**Changes in net material product and factor inputs**
*(Indices, 1973-1977=100)*

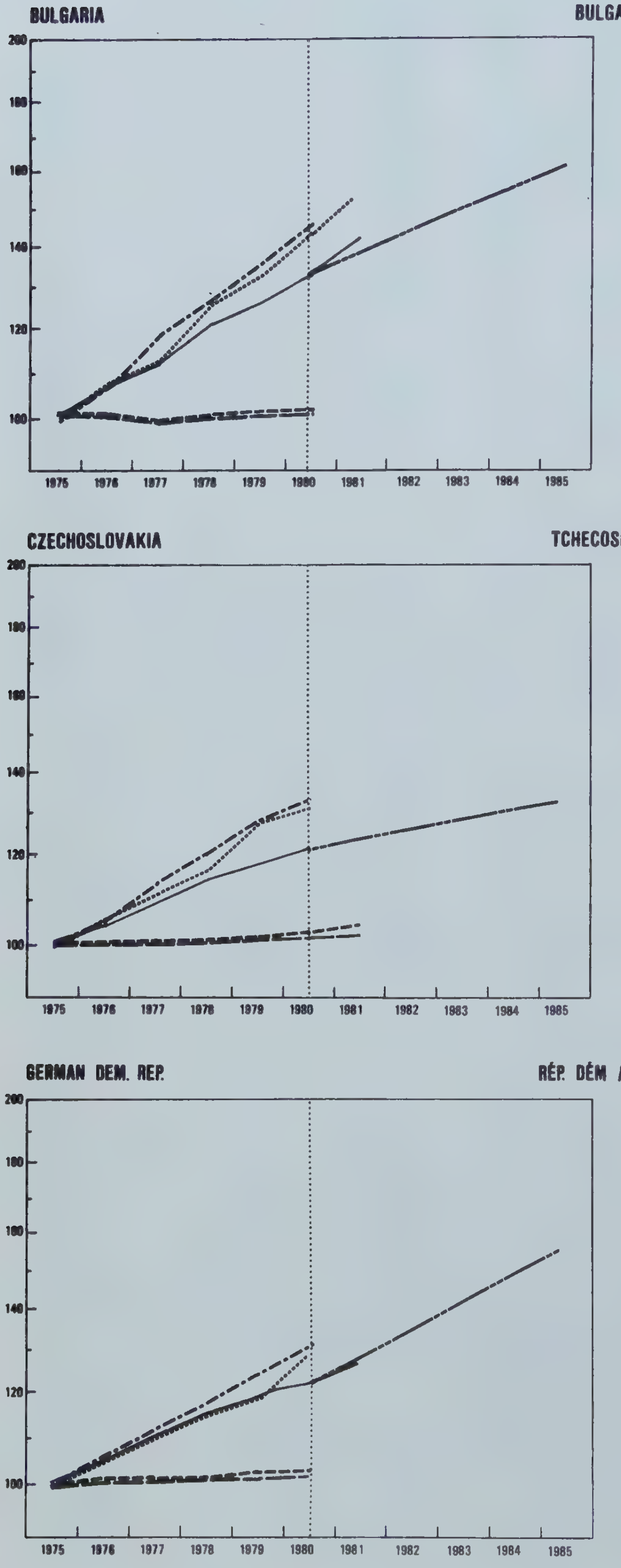


CHART 3.1.2

**Efficiency indicators**
*(Indices,1973-1977=100)*

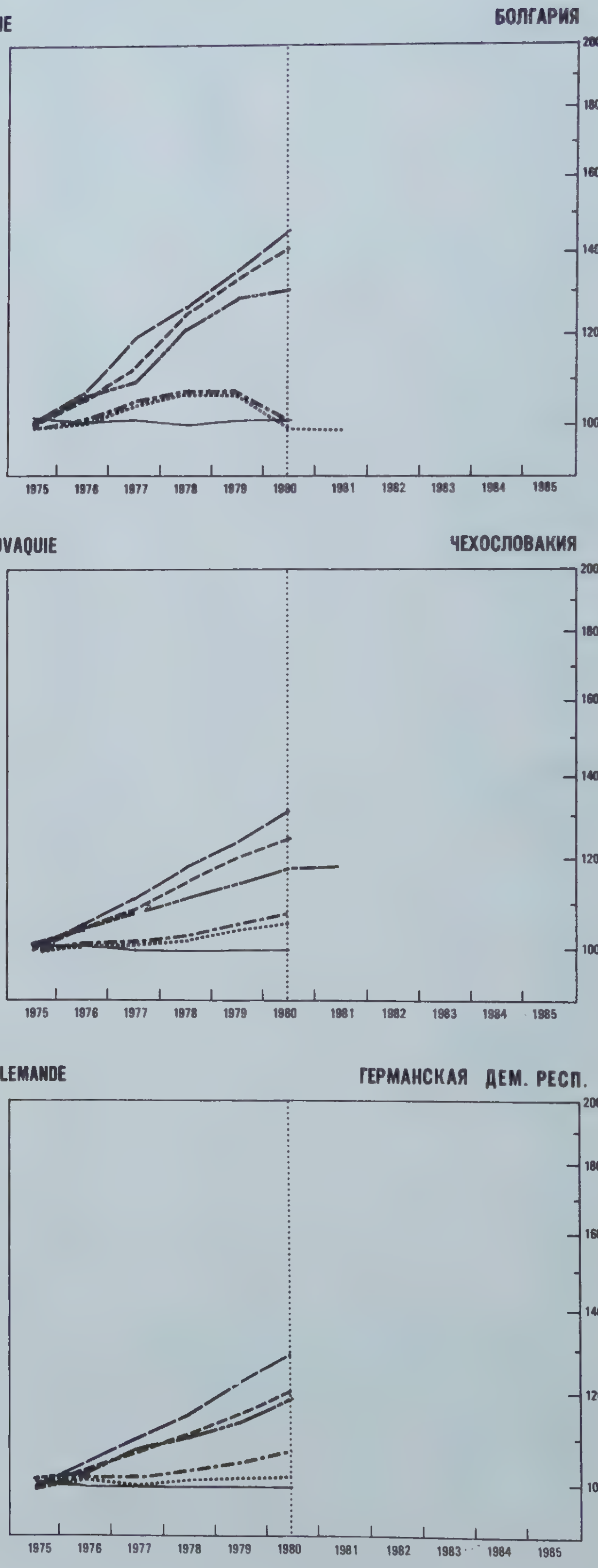


CHART 3.1.1 (*continued*)

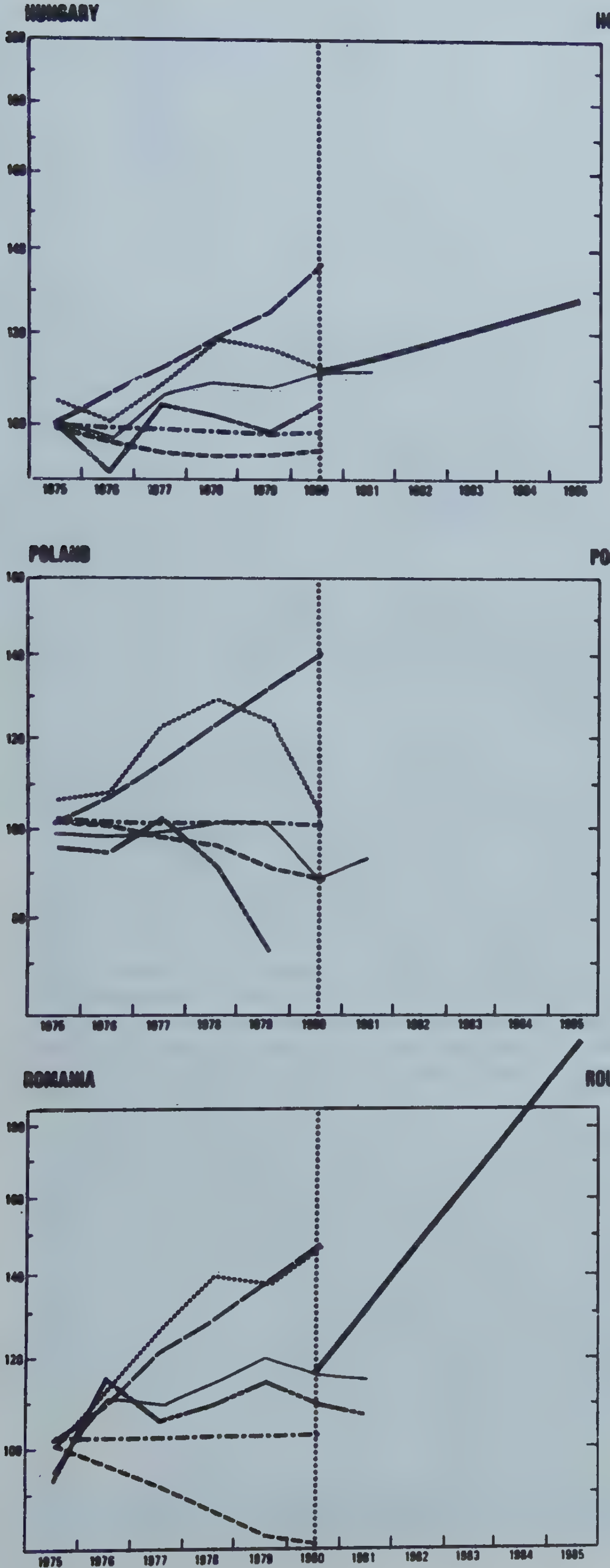


CHART 3.1.2 (*continued*)

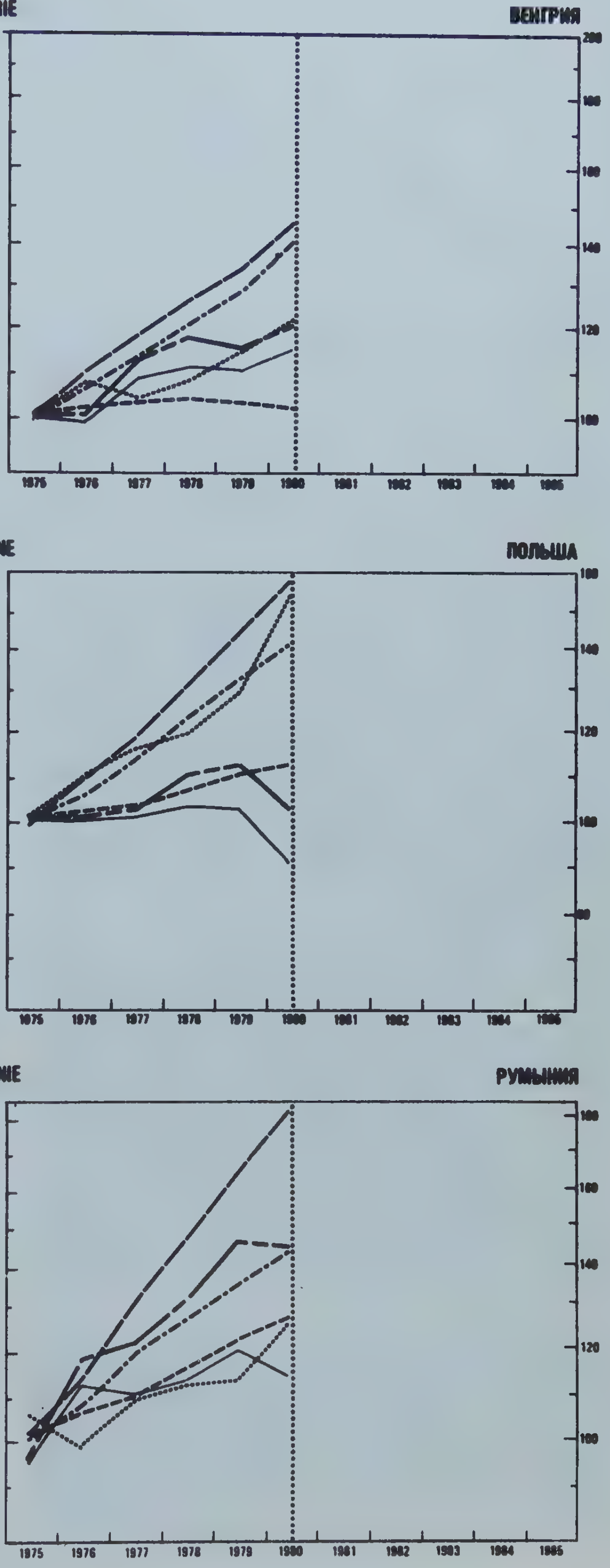


CHART 3.1.1 (*concluded*)

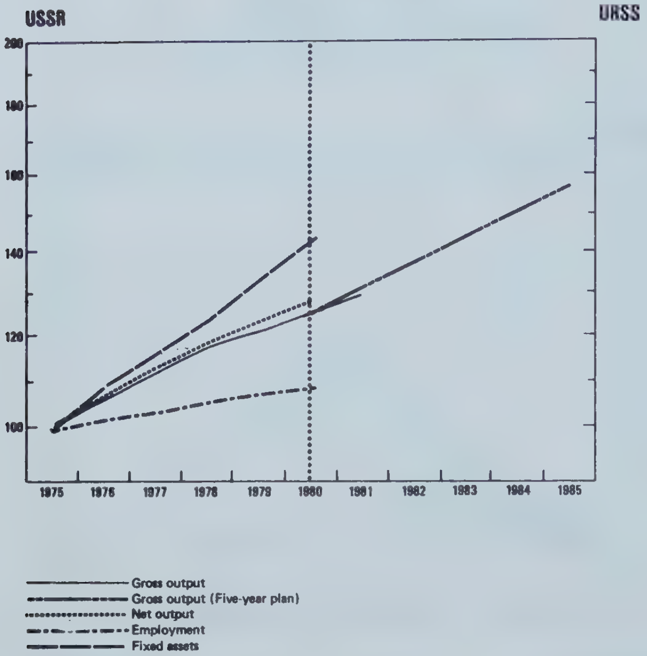
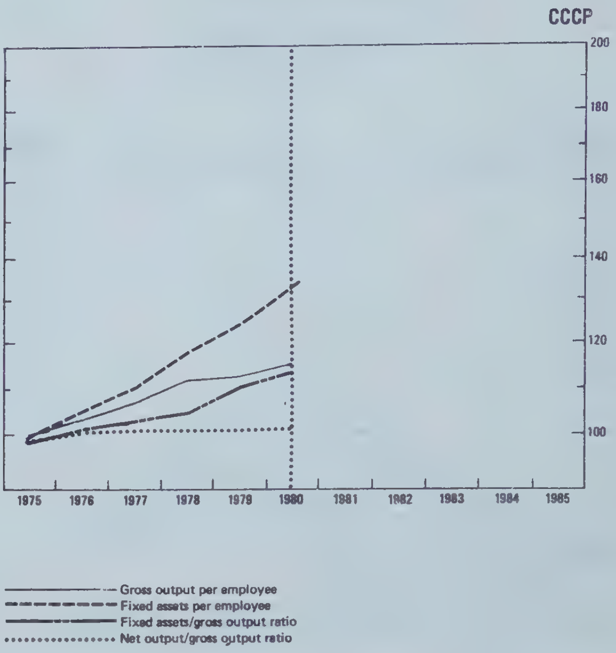


CHART 3.1.2 (*concluded*)



With regard to *structural changes* in output, the leading growth sector in all countries in 1976–1980 was industry. This affected all sectors and branches of the region's economies by making available industrial goods in greater quantities in relative and absolute terms. This, in most countries, was closely followed in order of growth by transport and communications and trade, resulting in structural changes typical of countries moving to an advanced level of economic development.[196] As shown in the text table overleaf, NMP structural changes in eastern Europe and the Soviet Union exhibited three main sectoral shifts.

The share of the *primary sector (agriculture and forestry)* diminished in all countries but Poland during the period. According to the *CMEA Statistical Yearbook 1981*, the biggest changes were in Bulgaria and the German Democratic Republic, where the percentage shares of agriculture and forestry in net material product produced in 1980 (16.7 per cent and 8.5 per cent respectively) were only about three quarters of the corresponding 1975 shares (22.1 and 11.1 per cent respectively). Changes in agriculture's share of NMP produced were smaller, but still noticeable, in Czechoslovakia, Hungary, Romania and the Soviet Union. Its slightly increased share in the NMP of Poland was a counterpart to the fall in industrial growth rates in that country during the period—in particular, to the negative rates of industrial growth registered in 1979 and 1980.

*Industry and construction*, which account for the bulk of the *secondary sector*, decreased slightly in Czechoslovakia and the Soviet Union during the 1976–1980 period.[197] It stayed roughly the same in Bulgaria and increased slightly in Hungary and Romania. Despite these variations, all the changes which took place in eastern Europe and the Soviet Union are consistent with a more or less mature stage of industrial economic development, characterized by a declining trend in the share of the secondary sector. The noticeable increase in the share of industry and construction in NMP observed in the German Democratic Republic (from 66.5 to 75.1 per cent between 1975 and 1980)—especially given that the whole of the change is attributable to industry, which increased from 59.1 per cent in 1975 to 68.3 per cent in 1980, while that of construction fell from 7.4 to 6.8 per cent—is somewhat unusual in view of the overall level of development of the country, and might indicate that the role of agriculture is underestimated in development policy, in price policy or in both. In Poland, the decline in the share of the secondary sector in NMP produced, took place because of the fall in industrial production during 1979–1980; industry's share alone fell from 59.6 of produced NMP in 1975 to 54.7 per cent in 1980.

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[196] According to ECE estimates for 1973, per capita gross domestic product measured in 1973 US dollars amounted to $2,507 in Bulgaria, $3,117 in Czechoslovakia, $3,301 in the German Democratic Republic, $2,433 in Hungary, $2,482 in Poland, $2,082 in Romania and $2,766 in the Soviet Union, as compared to, for example, per capita GDP estimated on the same basis in France of $3,492 in Italy of $2,918 and in Greece of $2,134 (*Economic Bulletin for Europe*, vol. 31, No. 2, New York 1980, p. 31).

[197] In fact, in the case of Czechoslovakia this decrease may be partly attributed to the new classification of branches in the material sphere, introduced in 1976.

Net material product by main sectors
(*Percentage shares*)

| | *Agriculture and forestry* | | | *Industry and construction* | | | *Transport, communications, trade and other economic activities* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *1970* | *1975* | *1980* | *1970* | *1975* | *1980* | *1970* | *1975* | *1980* |
| Bulgaria | 22.8 | 22.1 | 16.7 | 59.8 | 60.9 | 60.8 | 17.4 | 17.0 | 22.5 |
| Czechoslovakia | 10.5 | 8.7 | 7.3 | 73.4 | 78.4 | 75.5 | 16.1 | 12.9 | 17.2 |
| German Democratic Republic | 12.8 | 11.1 | 8.5 | 66.2 | 66.5 | 75.1 | 20.9 | 22.4 | 16.4 |
| Hungary | 21.7 | 17.9 | 15.8 | 55.6 | 57.3 | 60.1 | 22.7 | 24.8 | 24.1 |
| Poland | 17.3 | 14.8 | 15.3 | 64.4 | 70.8 | 64.0 | 18.3 | 14.4 | 20.7 |
| Romania | 19.5 | 16.6 | 15.2 | 69.5 | 65.5 | 68.6 | 11.0 | 17.9 | 16.2 |
| Soviet Union | 22.0 | 17.1 | 15.2 | 61.5 | 64.0 | 61.4 | 16.5 | 18.9 | 23.4 |

*Source: CMEA Statistical Yearbook 1981*, pp. 44–45.
*Note:* Due to differences in price base applied, as well as in coverage, figures differ from those based directly on national statistics.

With regard to *transport, communications, trade and unspecified activities*, usually qualified as the tertiary sector of the material sphere, their shares increased in Bulgaria, Czechoslovakia, Poland and the Soviet Union (from 17, 12.9, 14.4 and 18.9 to 22.5, 17.2, 20.7 and 23.4 respectively. This provides new evidence of economic development in both eastern Europe and in the Soviet Union—although the particularly sharp increase in Poland is largely explained by the untypical downward movement of the secondary sector. The same may be said for Hungary, where the share of the tertiary sector in NMP practically stagnated. In the case of Romania, the share of the tertiary sector declined from 17.9 to 16.2 per cent—by more than in Hungary, but still not out of line with short- and medium-term patterns. The largest change was recorded in the decline in the share of the tertiary sector in the German Democratic Republic—from 22.4 per cent in 1975 to some 16.4 per cent in 1980. This is the more unusual if it is recalled that the level of its share in 1980 is the second lowest, after Romania, in the region. Relative levels of development would suggest a markedly higher share of the tertiary sector in NMP for the German Democratic Republic. A likely explanation might be differences in sectoral price relatives; in nearly all countries of the region, and in the German Democratic Republic in particular, prices of services, including transport, are relatively low compared with all other sectors.

A similar evaluation of structural change in eastern Europe and the Soviet Union can also be applied to *industrial branches*. On the basis of the following text table, it is clear, first, that branches with above-average rates of growth during 1976–1980 are those in which the degree of processing is highest—a characteristic of relatively developed economies. The leading position belongs to engineering and metallurgy, chemicals and energy, electricity and heating. Though printing and glass and ceramics did, in fact, register higher growth rates than energy, their relative weights in total output in 1980 are so small (up to 1 per cent and 1.4 per cent respectively) that they can be left out of account. An important feature of development is the relatively fast growth of energy production, which registered above-average rates of growth in six out of seven countries. This reflects the stated intention of all the countries under review to increase the level of self-sufficiency in energy.

Growth of both industry and NMP in eastern Europe and the Soviet Union during the 1976–1980 period was accompanied by substantially expanding values and volumes of *foreign trade* in all countries of the region. According to CMEA statistics,[198] indices of trade turnover (exports plus imports) in 1980 over 1975 showed increases in value terms of some 45 per cent for Poland, 61 per cent for the German Democratic Republic, 66 per cent for Czechoslovakia, 76 per cent for Bulgaria and 85 per cent for the Soviet Union, as much as 113 per cent for Romania and 92 per cent for Hungary. All these figures are considerably higher than growth rates of NMP at current prices. This clearly illustrates the increasing participation of the east European countries and the Soviet Union in the international division of labour, at levels and tempos normal for countries at their stage of economic development and fully in line with their economic strategies and plan objectives.

Turnover value figures clearly are not a sound basis for a detailed assessment of foreign trade. In the following text table therefore, volume figures are presented for the purpose of comparison with the turnover figures for 1981–1985, which is virtually the only published planning aggregate. The table also shows trade flows, in volume terms, for both imports and exports, for the periods under review.

The table confirms that foreign trade in eastern Europe and the Soviet Union rose faster than NMP not only in value but also in volume terms. This was so particularly for eastern Europe, in which the average annual growth rate in the volume of turnover was three-quarters higher than that of NMP (7.0 as against 3.9 per cent). In all east European countries, exports in volume terms rose faster than imports—by only slightly more in the German Democratic Republic, by substantially more in Czechoslovakia, Hungary and Poland, and four times faster (12.8 as against 3.2 per cent) in Bulgaria.

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[198] Calculated on the basis of data in *CMEA Statistical Yearbook 1981* (in Russian), Moscow, 1981, p. 334.

**Industrial branches with above-average rates of growth 1976–1980**
*(Average annual percentage change)*

| | *Bulgaria* | *Czechoslovakia* | *German Dem. Rep.* | *Hungary* | *Poland* | *Romania* | *Soviet Union* |
|---|---|---|---|---|---|---|---|
| Industry, total | 6.0 | 4.6 | 5.0 | 3.5 | 4.6 | 9.5 | 4.4 |
| I. branch | 10.6<br>Printing | 6.7<br>Engineering and metallurgy | 7.0<br>Engineering and metallurgy | 7.9<br>Chemicals | 9.9<br>Glass and ceramics | 12.8<br>Construction materials | 8.2<br>Engineering and metallurgy |
| II. branch | 9.7<br>Chemicals | 5.8<br>Chemicals | 5.9<br>Energy | 6.9<br>Glass and ceramics | 7.0<br>Engineering and metallurgy | 12.7<br>Engineering and metallurgy | 6.5<br>Glass and ceramics |
| III. branch | 9.3<br>Engineering and metallurgy | 5.7<br>Wood and wood processing | 5.4<br>Glass and ceramics | 6.2<br>Printing | 6.9<br>Printing | 10.7<br>Textiles | 5.6<br>Chemicals |
| IV. branch | 8.7<br>Energy | 5.2<br>Glass and ceramics | | 5.7<br>Energy | 5.4<br>Energy | 9.6<br>Chemicals | 5.0<br>Energy |
| V. branch | 7.5<br>Construction materials | 4.8<br>Energy | | 4.2<br>Pulp and paper | 4.8<br>Wood and wood processing | 9.6<br>Glass and ceramics | 5.0<br>Clothing |
| VI. branch | 7.3<br>Ferrous metallurgy | | | 3.8<br>Wood and wood processing | | | |
| VIII. branch | 6.5<br>Glass and ceramics | | | | | | |

*Source:* *CMEA Statistical Yearbook 1981*, pp. 64–66.

*Note:* Due to differences in coverage and in definitions and price basis, some figures differ from those based directly on national sources reported in section 3.3.

**Growth of foreign trade volume**
*(Average annual percentage change)*

| | *1971–1975 Actual* | | *1976–1980* | | | | *1981–1985* |
|---|---|---|---|---|---|---|---|
| | | | | *Actual* | | | |
| | *Exports* | *Imports* | *plan turnover* | *Turnover* | *Exports* | *Imports* | *plan turnover* |
| *Eastern Europe* | 9.2 | 9.6 | 8.6 | 7.0 | 6.7 | 4.0 | . . |
| Bulgaria | 10.0 | 14.3 | 9.9 | 9.7 | 12.8 | 3.2 | 7.0 |
| Czechoslovakia | 6.3 | 6.5 | 6.2 | 5.6 | 6.3 | 2.9 | 5.7–6.2 |
| German Dem. Rep. | 9.1 | 7.2 | 7.3* | 6.6 | 5.8 | 5.2 | 6.3 |
| Hungary | 9.4 | 7.3 | 8.0 | 6.9 | 7.0 | 3.9 | 4.6–5.4 |
| Poland | 10.7 | 15.3 | 8.2[a] | 6.9 | 4.0 | 1.7 | . . |
| Romania | 11.0* | 8.1* | 11.5[b] | 8.2* | 7.8* | 8.8 | 11.9 |
| *Soviet Union* | 5.0 | 10.5 | 6.0 | 5.7 | 4.9 | 5.9 | 4.1 |

*Source:* National Statistical publications, national economic plans and plan fulfilment reports, and secretariat estimates.

*Note:* "Turnover" refers to the sum of exports and imports. Growth rates for exports and imports reflect the change between final years of the current and the preceding period, whereas growth rates for turnover, both plan and actual, are based on five-year average levels for the current and the preceding period. All figures for actual performance are derived from physical volume indices; plan figures are assumed to refer to volume change. The estimates for Romania are based on Romanian value data and Hungarian price indices.

[a] Average of plan targets for exports (11.8 per cent) and imports (4.7 per cent).

[b] Average of plan targets for exports (11.8–13.1 per cent) and imports (9.8–11.2 per cent).

**Foreign trade turnover by main groups of countries**
(*Percentage shares*)

| | CMEA countries | | Other socialist countries | | Developed market economies | | Developing countries | |
|---|---|---|---|---|---|---|---|---|
| | 1975 | 1980 | 1975 | 1980 | 1975 | 1980 | 1975 | 1980 |
| Bulgaria | 73.8 | 72.7 | 2.0 | 1.9 | 17.0 | 16.4 | 7.2 | 9.0 |
| Czechoslovakia | 66.0 | 65.5 | 4.6 | 4.4 | 22.4 | 23.0 | 7.0 | 7.1 |
| German Democratic Republic | 66.2 | 62.7 | 3.5 | 3.2 | 25.9 | 27.4 | 4.4 | 6.7 |
| Hungary | 66.1 | 49.6 | 2.9 | 3.5 | 24.4 | 36.7 | 6.6 | 10.3 |
| Poland | 49.7 | 53.2 | 2.5 | 2.4 | 41.3 | 34.7 | 6.5 | 9.6 |
| Romania | 38.0 | 33.8 | 6.8 | 6.6 | 36.7 | 33.1 | 18.5 | 26.5 |
| Soviet Union | 51.8 | 48.6 | 4.5 | 5.1 | 31.3 | 33.6 | 12.4 | 12.7 |

*Sources: Development of Member Countries of the CMEA in 1971–1980* (in Russian), Moscow, 1981, pp. 140–141.

The terms of trade for these countries meanwhile deteriorated substantially, so that all of them but Bulgaria recorded deficits in the balance of trade, as discussed below. Cumulative deficits recorded in 1971–1975 therefore could not be covered by an increased volume of exports in 1976–1980. For the Soviet Union, in contrast, the volume of import growth outstripped that of exports, but the country still recorded a considerable balance of trade surplus due to very favourable movements in its terms of trade. The volume of trade turnover grew faster than NMP. Actual turnover growth during 1976–1980 was, however, slower than envisaged by the five-year plans of either the east European countries or the Soviet Union—though the difference between actual and planned rates is larger for eastern Europe than for the Soviet Union. Moreover, since the average annual growth rates of turnover in volume terms envisaged by the 1976–1980 five-year plans were themselves lower than flows actually recorded in 1971–1975, it is clear that the deceleration which actually came about in 1976–1980 was somewhat sharper than expected. Indeed, it could be hardly otherwise, since the pace of NMP growth in general also decelerated by more than was expected.

Important changes were recorded in the *structure of foreign trade* of the countries under review, although not always in the same direction. The share of machinery and transport equipment for instance, rose in the *exports* of Bulgaria, the German Democratic Republic, Poland, Romania and Czechoslovakia, but declined in Hungary from 37.0 in 1975 to 32.2 per cent in 1980, and in the Soviet Union from 18.7 to 15.8 per cent between those years. The share of fuels, mineral raw materials and metals rose in Bulgaria, Hungary the German Democratic Republic, Romania and the Soviet Union, but declined in Poland and Czechoslovakia. The leading branches in the exports of individual countries are machinery and equipment in the German Democratic Republic, Czechoslovakia, Poland, Bulgaria and Hungary (with shares in total exports amounting to 51.3, 50.3, 44.4 44.4 and 32.2 respectively in 1980) and fuels, mineral fertilizers and metals in the Soviet Union and Romania (respectively 29.5 per cent and 57.2 per cent of total exports). On the *import* side, the share of machinery and equipment decreased during 1976—1980 in Bulgaria, Czechoslovakia, Hungary, Poland and Romania, but stayed the same in the German Democratic Republic and the Soviet Union (shares of 30.8 per cent and 33.9 per cent respectively). Fuels, mineral raw materials and metals, on the other hand, significantly increased their importance in the total in Bulgaria, the German Democratic Republic and in Romania. This commodity group noticeably rose in importance in Czechoslovakia, remained roughly the same in Hungary and Poland and decreased slightly in the Soviet Union. Machinery and transport equipment was the biggest import commodity group in Bulgaria, Czechoslovakia, Hungary, Poland and the Soviet Union (42.9, 36.6, 30.7, 32.7 and 33.9 per cent in 1980 respectively), whereas in the German Democratic Republic and Romania in the same year the highest shares were recorded for fuels, mineral raw materials and metals (36.7 and 50.3 respectively).[199]

Noticeable changes during the 1976–1980 period occurred in the *regional orientation* of the region's foreign trade.

The share of trade with other *CMEA countries* fell over the period in all east European countries except Poland. The fall was small in Bulgaria and Czechoslovakia, more noticeable in the German Democratic Republic, Romania and the Soviet Union, and substantial in Hungary. For Hungary and the Soviet Union it fell for the first time below 50 per cent, while in Romania it fell to roughly one-third only. The shares of trade with *other socialist countries*, already in 1975 by far the smallest trading member group for all countries of the region, increased in the Soviet Union but decreased in the case of the other countries. The shares of trade with the *developed market economies* decreased slightly in Romania and considerably in Poland, remained roughly the same in Bulgaria and Czechoslovakia but increased slightly in the German Democratic Republic and the Soviet Union, and more substantially in Hungary (from 24.2 to 36 per cent). *Developing countries* increased their share of the trade of all countries of eastern Europe and of the Soviet Union, in particular in the cases of the German Democratic Republic,

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[199] All figures quoted in this paragraph are taken from the *CMEA Statistical Yearbook 1981*, Moscow, 1981, pp. 337–342.

**Foreign trade balances 1976–1980**
*(Billion US dollars)*[a]

| | *Exports* | *Imports* | *Balance of trade* | *Percentage coverage of imports by exports*[b] |
|---|---|---|---|---|
| Bulgaria | 38.4 | 37.8 | 0.6 | 101.6 |
| Czechoslovakia | 59.2 | 62.9 | −3.7 | 94.1 |
| German Democratic Republic | 69.0 | 77.4 | −8.4 | 89.2 |
| Hungary | 33.6 | 37.8 | −4.2 | 88.8 |
| Poland | 70.3 | 80.9 | −10.6 | 86.9 |
| Romania | 43.0 | 46.1 | −3.1 | 93.2 |
| Soviet Union | 276.0 | 256.1 | 19.9 | 107.8 |
| Eastern Europe | 313.5 | 342.9 | −29.4 | 91.4 |
| Eastern Europe and the Soviet Union | 589.5 | 599.0 | −9.5 | 98.4 |

*Sources:* As for table 3.1.1.
[a] Calculated on the basis of average annual exchange rates of national currencies as against US dollars.
[b] Calculated on the basis of figures in millions of dollars.

Hungary and Poland. The highest share of trade with those countries, however, is still held by Romania and the Soviet Union (19.6 and 12.7 per cent respectively in 1980). The increasing share of developing countries in the region's foreign trade is fully in line with policies proclaimed at the beginning of the period.[200]

It is worth while pointing out that certain specific types of commercial relations continued to develop both inside and outside the CMEA. Long-term programmes, joint projects, compensation agreements, different kinds of credit arrangements, etc., were considerably enlarged. Within the CMEA, special attention was paid to the implementation of the first Concerted Plan of Multilateral Integrative Measures of the CMEA member countries for 1976–1980 which, according to the CMEA Secretariat, has been "mostly put into practice".[201] Co-operation between the countries related mainly to solving particularly pressing long-term problems. Five comprehensive long-term target-oriented programmes were adopted in 1976, covering energy, fuels and raw materials, mechanical engineering, agriculture and food supplies, manufactured consumer goods, and transport and communication. However, the preparation and implementation of these multilateral agreements took more time than expected, and benefits from some of those programmes will not materialize until the 1980s. Nevertheless, by April 1981 some 187 out of the planned 235 multilateral agreements had been drafted and recommended for signature[202] and by the end of 1981 some 170 were signed. In the engineering sector, about 80 multilateral agreements have already been put into operation, covering the manufacture of some 16,000 products.[203]

Movements in the *balance of trade* were a major element in economic policy development in 1976–1980, as can be seen from the text table above.

Bulgaria and the Soviet Union recorded surpluses over the period as a whole. The substantial Soviet surplus was more than offset by the large deficits of the east European countries, and the region as a whole thus accumulated in 1976–1980 a deficit amounting to $US 9.5 billion.[204] Compared with exports during the same period, it is clear that by international standards the deficit is not excessively high, since about 98 per cent of imports are covered by exports. The positions of the Soviet Union and eastern Europe are, however, substantially different, since coverage for the Soviet Union amounts to 107.8 per cent compared with only 91.4 per cent in the case of eastern Europe. Though the latter figure also is moderate in itself, the balance of trade deficit which it represents has proved difficult to manage, since most of the east European countries do not have significant sources of foreign currencies, and particularly hard currencies, other than exports. The positions of individual countries of eastern Europe, moreover, differ very greatly.

Official data of *balance-of-payments* developments are not published by the Soviet Union or most of the east European countries. Trade imbalances within the area—mainly east European deficits vis-à-vis the Soviet Union—were financed under bilateral arrangements, about which not very much is known. In the main this seems to have been a question of medium-term loans at low interest rates which provided the energy and raw material importing countries of eastern Europe with some additional time to adjust

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[200] This is not the case, however, with regard to the decreasing share of intra-CMEA trade in the foreign trade of the countries concerned, since almost all of them planned to increase trade with other CMEA countries. In fact, a good deal of the decrease in these shares in 1976–1980 might be a consequence of a slower price rise in intra-CMEA trade than in the trade with other regions.

[201] *Economic Development of the CMEA Member Countries in the Period of 1971–1980 and General Review of the Implementation of the Comprehensive Programme* (in English), Moscow, 1981, p. 8.

[202] *Idem*, p. 12.

[203] *Eastern Europe*, 9 July 1981, p. 1.

[204] Though this table comprises total trade of east European countries and the Soviet Union (including their mutual trade), the sum of balances of trade of all of them actually presents the net foreign trade balance for east European countries and the Soviet Union as a whole with all other countries, since their individual deficits and surpluses should cancel each other out.

**Distribution of national income 1976–1980**
*(Average annual percentage change)*

| | NMP produced | NMP distributed | Net capital formation | Consumption | | |
|---|---|---|---|---|---|---|
| | | | | Total | Personal | Social |
| Bulgaria | 6.1 | 5.2 | 3.2 | 7.8 | 7.4 | 8.6 |
| Czechoslovakia | 3.7 | 2.1 | 0.9 | 2.5 | 1.7 | 4.8 |
| German Democratic Republic | 4.1 | 3.7 | 2.6 | 3.8 | 4.0 | 3.5 |
| Hungary | 3.2 | 1.9 | −2.3 | 3.2 | 2.7 | 5.9 |
| Poland | 1.2 | −0.2 | −11.8 | 4.5 | 4.3 | 4.5 |
| Romania | 7.2 | . . | . . | . . | . . | . . |
| Soviet Union | 4.2 | 3.8 | 1.4 | . . | 4.6 | . . |

*Sources:* As for table 3.1.1.

to the worsening in their terms of trade. In trade with developing countries, eastern Europe, on a small scale, and the Soviet Union, on a much more significant scale, appeared as creditors, but again not very much is known about the details of the arrangements. Most of the visible financing activities arose from the trade with the developed market economies, where a variety of methods ranging from government guaranteed export credits to syndicated euro-market loans were used. By the end of 1980, the total net debt of eastern Europe and the Soviet Union was estimated at some $US 72 billion, an increase of some $US 43 billion over the level outstanding at the end of 1975.[205] The Soviet Union accounted for somewhat over 18 per cent of this total, eastern Europe for 78 per cent, and CMEA banks for the rest. The foreign exchange cost of servicing these debts, together with the foreign trade balances, affected the overall balance-of-payments positions of virtually all east European countries. This had a very substantial effect on domestic resource allocation throughout the region as discussed below.

During 1976–1980 there were several common characteristics in the development of *distributed national income* (NMP) in eastern Europe and the Soviet Union (table 3.1.2. and text table above).

The first characteristics common to all countries of the region, are the lower average annual rates recorded for the *growth of NMP distributed* as against net material product produced (in volume terms). For the east European countries, it can be explained mainly by attempts to divert resources towards import reductions during the period under review—efforts largely offset by adverse movements in the terms of trade. The extent of the resource shift varied between countries, and in eastern Europe it was fairly closely linked with the size of the balance of trade deficit at various times. It was relatively small in Bulgaria and the German Democratic Republic, and more substantial in Czechoslovakia, Hungary and Poland. The highest relative difference was recorded in Poland where attempts to redress the deficit gave rise to a substantial shift in resources. In the Soviet Union, the favourable terms of trade enabled the redressment process to take place without such a large resource reallocation, even though the initial (1975) deficit was large.

The second feature common to all countries of the region was the slower growth rates of *net capital formation* compared with NMP distributed. Here again, the sharpest difference occurred in Poland, where net capital formation declined at an average annual rate of nearly 12 per cent between 1975 and 1980. A similar, if not quite so marked relative movement was recorded in Hungary, where the growth rate of net capital formation over the period was also negative (−2.3 per cent). In the other four countries, net capital formation continued to rise but at rates considerably lower—by 30–80 per cent of the percentage increment of NMP distributed.

Thirdly, in all countries for which figures were reported, the relatively slow growth of net investment permitted the sum of *government and private consumption* growth rates to rise faster than those for NMP distributed. This trend was anticipated in the long-term policies of the countries of the region, and was in most cases provided for in the 1976–1980 five-year plans. Here too the country differences between the two indicators vary from slight (in Czechoslovakia and the German Democratic Republic) to substantial (in Bulgaria and Hungary). The biggest divergence is, once again, in Poland where the slightly negative growth rate of NMP distributed was accompanied by a total consumption growth rate higher than in any other country of the region but Bulgaria (figures for Romania and the Soviet Union were not reported).

*Social consumption* grew faster than private consumption in all countries for which figures were reported except the German Democratic Republic. This relationship between the two main elements of the consumption fund is in line with long-term policies of the region; it seems likely that the contrary relationship in the German Democratic Republic during the 1976–1980 period was a temporary exception.

All countries of the region recorded increases in both *real wages* per employee and in *real incomes* per head of the population. (See section 3.5: consumer incomes and supplies, table 3.5.1.) Real wages rose

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[205] See section 3.6 below.

TABLE 3.1.2

**Changes in distributed net material product**
*(Annual percentage change)*

| Country and period | NMP distributed | Consumption |  |  | Net capital formation |  |  |
|---|---|---|---|---|---|---|---|
|  |  | Total | Personal[a] | Social | Total[b] | Net fixed capital formation | Changes in stocks |
| *Bulgaria*[c] |  |  |  |  |  |  |  |
| 1976–1980 | 5.2 | 7.8 | 7.4 | 8.6 | 3.2 | 2.4 | 5.3 |
| 1979 | 7.5 | 7.0 | 7.1 | 6.8 | 8.8 | 20.1 | −36.9 |
| 1980 | 14.5 | 14.5 | 11.2 | 22.2 | 15.2 | −42.6 | 459.3 |
| 1981 |  |  |  |  |  |  |  |
| *Czechoslovakia* |  |  |  |  |  |  |  |
| 1976–1980 | 2.1 | 2.5 | 1.7 | 4.8 | 0.9 | 0.4 | 2.6 |
| 1979 | 1.1 | 0.9 | −0.6 | 4.8 | 1.8 | −8.5 | 101.7 |
| 1980 | 2.3 | 1.0 | −0.1 | 3.6 | 6.6 | −0.5 | 37.4 |
| 1981 | .. | .. | 1.0 | 3.2 | .. | .. | .. |
| *German Dem. Rep.* |  |  |  |  |  |  |  |
| 1976–1980 | 3.7 | 3.8 | 4.0 | 3.5 | 2.6 | 3.4 | −6.7 |
| 1979 | 1.6 | 3.4 | 4.1 | 0.6 | −4.8 | 0.4 | −64.7 |
| 1980 | 4.9 | 3.3 | 4.0 | 0.6 | 10.7 | .. | .. |
| 1981 |  |  |  |  |  |  |  |
| *Hungary* |  |  |  |  |  |  |  |
| 1976–1980 | 1.9 | 3.2 | 2.7 | 5.9 | −2.3 | −2.7 | −9.8 |
| 1979 | −5.5 | 2.9 | 2.4 | 5.8 | −24.9 | −39.1 | 9.6 |
| 1980 | −1.9 | 1.1 | 1.0 | 1.9 | −11.3 | −13.2 | 243.7 |
| 1981 | −0.1 | .. | 1.5–2.4 |  |  |  |  |
| *Poland* |  |  |  |  |  |  |  |
| 1976–1980 | −0.2 | 4.5 | 4.4 | 5.2 | −11.8 | −9.2 | −29.0 |
| 1979 | −3.7 | 3.1 | 3.2 | 2.1 | −19.2 | −15.4 | −39.5 |
| 1980 | −6.0 | 2.1 | 2.3 | 1.2 | −29.5 | −25.4 | −61.3 |
| 1981 | −12.0 |  | −2.0* |  |  | -45.0 |  |
| *Soviet Union* |  |  |  |  |  |  |  |
| 1976–1980 | 3.8 | 4.6 | .. | .. | 1.4 | .. | .. |
| 1979 | 2.0 | 4.2 | .. | .. | −3.8 | .. | .. |
| 1980 | 3.8 | 5.9 | .. | .. | −2.8 | .. | .. |
| Plan 1981 | 3.4 | .. | .. | .. | .. | .. | .. |
| 1981 | 3.0 |  |  |  |  |  |  |
| Plan 1982 | 3.0 |  |  |  |  |  |  |
| Plan 1981–1985 | 3.4 | .. | .. | .. | .. | .. | .. |

*Sources:* As for table 3.1.1.

[a] Volume of consumer goods supplied to the population.

[b] Consumption of material goods in institutions providing amenities and social welfare services.

[c] Secretariat estimates at current prices.

slowest in Bulgaria and Czechoslovakia (by average annual rates of 0.5 and 0.7 per cent respectively) and considerably faster in Poland and the Soviet Union (2.0 and 3.0 per cent respectively). The highest rates of growth were recorded in the German Democratic Republic and Romania (4.4 and 6.1 per cent respectively). Due to the relatively higher growth rates of social consumption compared with personal consumption, real incomes per head of the population rose during the 1976–1980 period faster than real wages. The increase was slowest in Czechoslovakia and Hungary (1.3 and 1.6 per cent respectively), notably more buoyant in Bulgaria, Poland and the Soviet Union (2.6, 2.9 and 3.3 per cent respectively) and highest of all in the German Democratic Republic and Romania (4.3 and 5.1 per cent respectively). In the German Democratic Republic, real incomes per capita rose at virtually the same rate as real wages (4.3 and 4.4 per cent respectively).

The movements of the main economic aggregates during the 1976–1980 period described above, confirm that all countries of the region achieved very substantial economic growth performance by international standards. The picture of development during the period would not be complete without reference to developments over the previous period, and also to the objectives defined in plans, and particularly in the five-year plans for 1976–1980.

In considering performance in relation to historical and planned trends, an important evolution in the nature and role of planning should be noted. The plans themselves, while still retaining the force of law

**Growth of net material product**
*(Average annual percentage change)*

| | *1966–1970* | | *1971–1975* | | *1976–1980* | | *Plan 1981–1985* |
|---|---|---|---|---|---|---|---|
| | *Plan* | *Actual* | *Plan* | *Actual* | *Plan* | *Actual* | |
| Bulgaria | 8.5 | 8.7 | 7.7–8.5 | 7.8 | 7.7 | 6.1 | 3.7 |
| Czechoslovakia | 4.1–4.4 | 6.9 | 5.1 | 5.7 | 4.9 | 3.7 | 2.0–2.6 |
| German Democratic Republic | 5.4 | 5.2 | 4.9 | 5.4 | 5.0 | 4.1 | 5.1 |
| Hungary | 3.5–3.9 | 6.8 | 5.5–6.0 | 6.2 | 5.4–5.7 | 3.2 | 2.6–3.2 |
| Poland | 6.0 | 6.0 | 6.7–6.8 | 9.8 | 7.0–7.3 | 1.2 | 0.9* |
| Romania | 7.0 | 7.7 | 11–12 | 11.3 | 10–11 | 7.2 | 7.1 |
| Soviet Union | 6.6–7.1[a] | 7.8 | 6.5–7.0[a] | 5.7 | 4.7[a] | 4.2 | 3.4[a] |
| Eastern Europe | 5.6 | 6.5 | 6.7 | 7.8 | 6.6 | 3.9<br>5.0[b] | 3.8 |
| Eastern Europe and the Soviet Union | 6.5 | 7.4 | 6.7 | 6.2 | 5.3 | 4.1<br>4.4[b] | 3.5 |

*Sources:* As for table 3.1.1. [a] NMP distributed. [b] Excluding Poland.

in all countries of the region, are not considered simply as documents which, once approved, must be fulfilled to the letter in quantitative terms, regardless of circumstances. They are rather considered as basic policy documents for determining and guiding the main stream of socio-economic development, and contain a certain element of flexibility allowing for the optimization of solutions under changing circumstances not foreseen at the outset of the plan period. Divergencies between planned and actual trends in 1976–1980 should thus be considered in many instances as a series of responses to the big shifts in the conditions of domestic and world economic growth which took place during the period. The plan figures do, nevertheless, provide relevant criteria for the evaluation of actual developments. The east European countries and the Soviet Union are centrally planned economies (although not to the same extent or in the same way)—primarily because they themselves consider planning as one of the basic elements of their economic and overall social development. The differences between the plans and actual economic trends therefore should be taken into account—the more so when they are large. To avoid over-simplifications however, the following evaluation of developments in relation to plan objectives for the period 1976–1980 is set in the context of historical trends, giving full weight to the importance of plan objectives as an expression of the different development patterns in centrally planned economies compared with other countries of the ECE area.

In the historical context, the most noticeable feature is the definite *deceleration of economic growth* which became apparent in 1976–1980. This tendency is clearly apparent from the year-to-year growth sequence shown in table 3.1.1. For NMP, actual changes during the 1976–1980 period show a progressive decline in growth rates in all countries but the German Democratic Republic. The trend was continuous over the whole period in Poland and Romania, and broken in one or two years only in the other countries of the region. For eastern Europe, the deceleration is quite obvious and continuous for the sub-region as a whole. If eastern Europe and the Soviet Union are taken together, the trend was continuous for the years since 1976 until broken in 1980 by a sharp (3.5 per cent) upturn in Soviet growth.

The figures quoted in table 3.1.1 do not bring out fully the longer-term development growth tendencies of eastern Europe and the Soviet Union. In the text table above therefore, planned and actual average annual percentage changes of NMP over successive five-year periods are given, in addition to plans for the current five-year period.

The table shows clearly that the decelerating growth tendency identified for the period 1976–1980 is in fact part of a longer-term trend.

For the seven contries taken together, the deceleration is evident and continuous, as also in the cases of Bulgaria, Czechoslovakia, Hungary and the Soviet Union. For eastern Europe, the tendency reversed for 1971–1975. This is, however, mostly due to the exceptionally high average annual growth rates recorded by Poland and Romania (9.8 and 11.3 respectively)—though performance in precisely these two countries fell away most abruptly, particularly in Poland, during the following period (from annual averages of 6.0 to 1.2 per cent in the cases of Poland between the two periods, and from 11.3 to 7.2 per cent for Romania).[206] The trend has been commented upon by economists from the region.[207]

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[206] This is confirmed by linear trends calculated on a year-by-year basis over 1966–1980, which show the same patterns for eastern Europe, the Soviet Union and both taken together. The calculation can be expressed from equation, as follows: eastern Europe, $Y = 6.1226 - 0.294\,t$; the Soviet Union, $Y = 5.8926 - 0.349\,t$; Soviet Union and eastern Europe taken together, $Y = 5.953 - 0.3345\,t$, where the $Y$ indicates calculated growth rates in individual years of the period and the $t$ is the ordinal numeral of the year in the sequence of years within period (1966 = 1, 1967 = 2, etc.).

[207] "High dynamics of economic development in 1960–1980 were the basis on which the socialist countries steadily raised living

(Continued on next page.)

**East European countries and the Soviet Union by the size of the rate of growth of NMP**

| *Average annual percentage change* | *1971–1975* | *Plan 1976–1980* | *1976–1980* | *Plan 1981–1985* |
|---|---|---|---|---|
| 8.6 and over | Romania 11.3 | Romania 10–11 | | |
| | Poland 9.8 | | | |
| 7.1–8.5 | Bulgaria 8.3 | Bulgaria 7.7 | Romania 7.2 | Romania 7.1 |
| | | Poland 7.0–7.3 | | |
| 5.6–7.0 | Hungary 6.2 | | Bulgaria 6.1 | |
| | Czechoslovakia 5.7 | | | |
| | Soviet Union 5.7 | | | |
| 4.1–5.5 | German Dem. Rep. 5.4 | Hungary 5.4–5.7 | Soviet Union 4.2 | |
| | | German Dem. Rep. 5.3 | | |
| | | Czechoslovakia 4.9 | German Dem. Rep. 4.1 | German Dem. Rep. 5.1 |
| | | Soviet Union 4.7 | | |
| 2.6–4.0 | | | Czechoslovakia 3.7 | Bulgaria 3.7 |
| | | | | Soviet Union 3.4 |
| | | | Hungary 3.2 | Hungary 2.6–3.2 |
| 2.5 and below | | | | Czechoslovakia 2.0–2.6 |
| | | | Poland 1.2 | Poland 0.9 |

*Sources:* As for table 3.1.1.

*Note:* Number of groups and group intervals defined on the basis of Sturgess rule. This states that for a number of observations ($N$) the number of groups ($K$) is determined by the expression $K = 1 + 3{\cdot}3 \log{\cdot}N$, the group interval ($I$) being defined as

$$I = \frac{x \max - x \min}{k}$$

In the text table above the trend is illustrated by ranking countries according to the level of planned and actual average annual growth rates over 1976–1980 in comparison with actual growth rates in 1971–1975 and planned growth rates for 1981–1985.

It is clear from the table that all east European countries and the Soviet Union planned lower average annual NMP growth rates in 1976–1980 than those attained during the former period. Taking into account the longer-term decelerating trend of NMP growth, such a strategy seems to have been realistic. However, the extent of the deceleration was not the same in all countries. Indeed, three main types of strategy can be distinguished within the region which had different consequences for development in 1976–1980.

Romania and Bulgaria, the two countries with the highest rates of growth during 1971–1975, planned their growth rates for 1976–1980 at similar levels to those attained in the earlier period. However, these high plan objectives were not achieved in 1976–1980, the increments actually registered falling within the next lower interval in the table. Four countries (Poland, Hungary, Czechoslovakia and the Soviet Union) fixed their five-year plan targets for 1976–1980 one interval lower than the percentage growth rates actually attained in 1971–1975; but the Soviet Union was the only country of these where growth did not fall into the next lower interval (as in Hungary and Czechoslovakia)—or indeed into the next but one lower interval (Poland). The Polish performance is a further indicator that the very high rates recorded in 1971–1975 were unsustainable. It also strongly suggests that the causes of the present situation in Poland, which became acute from 1980 onwards, had its roots in the development strategy followed over the whole 1971–1980 decade. The third

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*(Footnote 207 continued.)*
standards and strengthened their economic potential. The economic and social growth was facilitated by the international division of labour, enabling the countries to use their national resources most effectively and to provide for proportional development of each country of the group. At the same time, the overall economic growth was declining during the period under consideration"—A. G. Aganbegian, *Changes in economic trends in the 1970s and some long-term implications: USSR and East European Countries,* United Nations Economic and Social Council, EC.AD. (XVII)/AC.1/R.2, 23 August 1981, Geneva p. 9.

strategic option—quite unique in the region—was chosen by the German Democratic Republic; its overall five-year plan objectives for 1976–1980 maintained the same growth rate levels as actual performance in 1971–1975, and it succeeded in achieving growth performance within that interval; even so, growth was noticeably lower than planned (4.1 compared with 5.3 per cent annually). This relative stability can be at least partly explained by the fact that during the 1971–1975 period, the German Democratic Republic recorded the lowest NMP growth rate in the region (5.4 per cent compared with a 6.7 per cent annual average for the whole region). The strategy of stable long-term growth appears to have been a sound axis of development of the country over the 1966–1980 period taken as a whole.

The overall decelerating trend of growth rates in most countries has been usually linked to specific difficulties and shortcomings. Published comment and analysis within the countries of the causes involved have listed several of them in detail, though discussion has tended to take place in qualitative rather than quantitative terms. It is thus difficult to assess the relative weight of any of them and it is therefore necessary to supplement the treatment of the issues published by the countries concerned by an assessment in more quantitative terms.

The factors influencing the deceleration of growth rates actually can be distinguished at two levels. First, standard analysis can be employed to follow the trends of the factor *inputs* and, secondly, to assess the efficiency with which they are used. Different elements relative to the deceleration of growth rates in eastern Europe and the Soviet Union are involved, and they may be classified into several groups.

Probably the most frequently quoted element restricting the possibilities for expansion at previous historical rates is the availability of *labour*. This constraint does not affect all countries of the region equally but when the figures shown in the text table below are taken into account, there is no doubt that it does play an important role in determining the development of those countries.

**Increase in active population**
(*In thousands, for five-year period*)

| Country | 1966–1970 | 1971–1975 | 1976–1980 | Forecast 1981–1985 |
|---|---|---|---|---|
| Bulgaria | 208 | 169 | 77.6 | .. |
| Czechoslovakia | 556 | 402 | 285 | 70–80* |
| German Democratic Republic | 93 | 107 | 277 | 150* |
| Hungary | 331 | 105 | −79 | −100 |
| Poland | 1 654 | 1 397 | −80 | −100* |
| Romania | 191 | 275 | 91.3 | 77.1 |
| Eastern Europe | 3 033 | 2 455 | 571.9 | .. |
| Soviet Union | 10 090 | 11 170 | 8 080 | .. |
| Byelorussian SSR | 402 | 425 | 400 | .. |
| Ukrainian SSR | 1 564 | 1 465 | 1 400 | .. |

*Sources:* As for table 3.1.1.

The table clearly shows a continuous slowdown since 1966 in the growth of the active population in four out of six countries of eastern Europe—Bulgaria, Czechoslovakia, Hungary and Poland, as well as in the Ukrainian SSR. During the 1976–1980 period the same situation developed in the Byelorussian SSR as well as in the Soviet Union as a whole. The only two countries where the years 1976–1980 saw definite growth in the increment of active population were Romania and the German Democratic Republic, but their weight in the total is too low to change the picture for the region. The absolute increment in active population in eastern Europe was some 572,000 people in 1976–1980, or less than one quarter (23.3 per cent) of that in 1971–1975; in the Soviet Union the increment amounted to roughly 8.1 million (some 27.7 per cent less than in 1971–1975). The effects of the slowdown in increment in the active population were, moreover, accentuated by the fact that during the period under review employment in the material sphere rose considerably more slowly than employment in the economy as a whole, due to a relative shift of employment into the non-material sphere in all countries of the region but Romania (see following text table).

**Employment in the material and non-material spheres**
(*Average annual percentage change*)

| Country | 1971–1975 |  | 1976–1980 |  | 1981–1985 |  |
|---|---|---|---|---|---|---|
|  | Material | Non-material | Material | Non-material | Material | Non-material |
| Bulgaria | 0.2 | 4.5 | 0.0 | 2.0 | −0.8 | .. |
| Czechoslovakia | 0.3 | 1.4 | 0.4 | 3.3 | .. | .. |
| German Democratic Republic | 0.1 | 2.2 | 0.4 | 1.8 | .. | .. |
| Hungary | 0.0 | 2.6 | −0.5 | 2.2 | −0.6 | 2.3 |
| Poland | 3.4 | 3.6 | 0.2 | 2.3 | .. | .. |
| Romania | 4.6 | 2.6 | 3.2 | 2.7 | .. | .. |
| Soviet Union | 1.5 | 3.1 | 1.0 | 2.3 | .. | .. |

*Sources:* As for table 3.1.1.

A second major cause of decelerating NMP growth rates in the region is the ever scarcer and increasingly costly supply of *material inputs*. However, the positions of eastern Europe and the Soviet Union in this respect differ markedly from each other. The Soviet Union has a vast natural potential in most, if not all the resources necessary for the continuous production of energy, fuel and raw materials. Nevertheless, the above general statement remains true, since the enlargement of energy and raw materials, and in particular the replacement of worked-out resources, in many cases implies huge investments in regions east of the Urals; additions to direct investments in developing these supplies, additional massive investments in transport links between those regions and the main consumer centres, located mainly in the European part of the country, and in on-the-spot infrastructural development, are necessary. Their location in climatically severe parts of the country, moreover, adds to the increasing cost of investment per unit of output;

**Energy, fuels and raw materials branches labour productivity in state and co-operative industry**
*(Average annual percentage change)*

| | *Industry total* | | *Electroenergy and heating* | | *Fuel industry* | | *Ferrous metallurgy (industry ore extraction)* | | *Non-ferrous industry (including ore extraction)* | | *Capital intensity of industry* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *1971–1975* | *1976–1980* | *1971–1975* | *1976–1980* | *1971–1975* | *1976–1980* | *1971–1975* | *1976–1980* | *1971–1975* | *1976–1980* | *1976–1980* |
| Bulgaria | 6.8 | 5.2 | 0.2 | 1.5 | 10.9 | 4.1 | 8.0 | 3.5 | – | 3.6 | 6.6 |
| Czechoslovakia | 6.0 | 4.1 | 3.9 | 2.2 | 3.4 | 1.8 | 5.1 | 2.4 | 4.1 | 1.9 | 5.8 |
| Hungary | 6.2 | 4.6 | 6.3 | 6.3 | 7.2 | 3.9 | 4.6 | 1.6 | 5.9 | 3.9 | 9.9 |
| German Dem. Rep. | 5.4 | 4.5 | 1.7 | 2.6 | 3.9 | 3.1 | 5.9 | 3.2 | . . | . . | 5.5 |
| Poland | 7.6 | 4.3 | 5.4 | 4.6 | 5.1 | 0.5 | 6.2 | 2.4 | 9.7 | 2.2 | 9.4 |
| Romania | 6.3 | 6.8 | 8.3 | 5.1[a] | 4.2 | 1.4[a] | 8.2 | 8.8[a] | 5.9 | 3.8[a] | . . |
| Soviet Union | 6.0 | 3.1 | 5.9 | 2.6 | 7.2 | 1.4 | 4.9 | 0.8 | . . | . . | 6.3 |

*Source:* Calculated on the basis of the *CMEA Statistical Yearbook 1981*, pp. 125, 135–136.
*Note:* Due to differences in definitions and coverage, figures differ from some national ones.
[a] 1976–1979.

these factors also tend to affect labour productivity adversely, as indicated in the text table above.

The first two columns show that labour productivity growth in industry during 1976–1980 decelerated in all countries of the region except Romania—noticeably in most countries and substantially in some of them. The next four pairs of columns apparently confirm that the growing cost, and perhaps the scarcity, of energy, fuels and raw materials is, in fact caused mainly by decelerating growth rates of industrial labour productivity. Except for electricity and thermal energy generation, where the rates of growth in eastern Europe were more or less comparable with those attained in the former quinquennium, in all other branches providing material inputs shown in the table—the fuel industry, ferrous and non-ferrous metallurgy—labour productivity rates of growth substantially declined, in many cases to levels lower than half those recorded in the 1971–1975 period. Decreases in labour productivity, however, were most pronounced in the Soviet Union, in which average annual growth rates of labour productivity between 1976–1980 as against 1971–1975 fell from 5.9 per cent to 2.6 per cent for electricity and thermal power generation, from 7.2 to 1.4 per cent for the fuel industry and from 4.9 to 0.8 per cent only for ferrous metallurgy (including ore extraction). If the fact that Soviet deliveries make up the bulk of the fuel and metal-ores supplies for several east European countries is taken into account, it becomes quite obvious that the increasing cost, extraction difficulty and consequent scarcity of material inputs must have contributed to the deceleration of growth rates throughout the region.

However, it is necessary to point out that declining labour productivity in the branches mentioned cannot be explained by decreasing capital intensity. The last column shows that overall industrial capital intensity—which includes in any case the element of technical progress—in the same period rose considerably, and in branches for which figures are not available or not presented, the rise was even higher. Nor is there any reason to think that the quality of management in these branches concerned is lower than average for the economy as a whole. Clearly, poorer quality and less accessible deposits are a major cause of decreasing growth rates in those branches producing the main material inputs. The fact that employment itself meanwhile remained roughly the same or even decreased, implies that quantities produced of total material inputs mentioned, lagged behind the needs of industry and other branches, thus constraining the expansion of the economy as a whole of all east European countries and the Soviet Union.

The third main factor input—*investment*—has also played a constraining role in economic growth: viewed in relation to NMP produced, the net capital formation ratio in all countries was high by international standards in 1971–1975 (32.5 per cent in Bulgaria, 29.2 per cent in Czechoslovakia, 22.3 per cent in the German Democratic Republic, 27.7 per cent in Hungary, 34.1 per cent in Poland, and 26.6 per cent in the Soviet Union). During the 1976–1980 period, as mentioned already, net capital formation recorded average annual rates of growth significantly lower than for national income. To overcome this constraint, nearly all countries of the region enlarged their investment potential by net borrowing from abroad—as the $43 billion increase over the period in their foreign debt shows.

Since the availability and cost of all the principal factor inputs (labour supplies, material inputs and investment potentials) gave rise to more or less constraining effects, the development of the east European countries and the Soviet Union during the 1976–1980 period depended crucially on the *efficiency* with which they were used.[208] Many objectives, the attainment of which would depend on

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[208] Such an evaluation is in particular true for the most developed and import dependent east European countries, e.g. Czechoslovakia, in which it was stated: "The economic policy of the Communist Party of Czechoslovakia in the 1970s put prime emphasis on issues of efficiency and the intensification of production and, in the sixth five-year plan, essentially presented them as the only possible way of overcoming the difficulties encountered in providing for further economic growth and improvement of the standard of living". "Czechoslovakia's Economic Development in the Sixth Five-Year Plan Period 1976–1980", (in English), *Czechoslovak Foreign Trade*, Prague, 1981, No. 7, p. 8.

Changes in net material product (NMP) and labour productivity (LP)
*(Average annual percentage change)*

| | *Five-year plan 1976–1980* | | | *Net material product 1976–1980* | | | *Labour productivity 1976–1980* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *NMP (1)* | *LP (2)* | *LP/NMP (3)* | *FYP (4)* | *Actual (5)* | *Actual/FYP (6)* | *FYP (7)* | *Actual (8)* | *Actual/FYP (9)* |
| Bulgaria | 7.7 | 7.7 | 1.00 | 7.7 | 6.1 | 0.79 | 7.7 | 6.1 | 0.79 |
| Czechoslovakia | 4.9 | 4.5 | 0.92 | 4.9 | 3.7 | 0.76 | 4.5 | 3.3 | 0.73 |
| German Dem. Rep. | 5.0 | 4.4 | 0.89 | 5.0 | 4.1 | 0.82 | 4.4 | 3.6 | 0.82 |
| Hungary | 5.4–5.7 | 5.4–5.7 | 1.00 | 5.4–5.7 | 3.2 | 0.58 | 5.4–5.7 | 3.7 | 0.67 |
| Poland | 7.0–7.3 | 5.9–6.1 | 0.84 | 7.0–7.3 | 1.2 | 0.17 | 5.9–6.1 | 1.7 | 0.28 |
| Romania | 10–11 | 9.4–10.4 | 0.94 | 10–11 | 7.2 | 0.69 | 9.4–10.4 | 6.6 | 0.67 |
| Soviet Union | 4.7[a] | 3.5* | 0.75 | 4.7[a] | 4.2 | 0.89 | 3.5* | 3.2 | 0.91 |

*Sources:* As for table 3.1.1. [a] Net material product distributed.

higher efficiency, therefore, were explicitly mentioned as such in the five-year plans for 1976–1980. In many cases, only qualitative statements were made, but in a good many others quantitative efficiency or economy targets were laid down. Where such targets were laid down for the 1976–1980 period, however, outcomes were noticeably, and in some cases substantially, lower than planned. This in itself is a further illustration of the reasons for shortfalls in NMP growth compared with plans.[209]

Comparisons of average annual growth rates planned for NMP and labour productivity over the 1976–1980 period, given in the table above, confirm that *labour productivity* was expected to play a decisive role in overall growth in both east European countries and in the Soviet Union. In fact, the third column of the table apparently confirms that labour productivity was expected to contribute some 75 per cent of NMP growth in the Soviet Union and 100 per cent of growth in Bulgaria and Hungary, its contribution in other countries being located between these extremes. The next three columns of the table compare the planned and actual attained growth rates of NMP over the five-year period and illustrate the degree of NMP plan fulfilment. The sixth column shows that the ratio of planned to actual NMP percentage growth rates varied from some 89 per cent in the Soviet Union, through 82 per cent in the German Democratic Republic, 79 per cent in Bulgaria, 76 per cent in Czechoslovakia, to only 69 per cent in Romania and some 58 per cent in Hungary. In Poland the ratio was some 17 per cent only.

The three last columns of the table show the ratio between planned and achieved labour productivity growth rates. This suggests two important conclusions. First, actual growth rates of labour productivity in all countries of eastern Europe and the Soviet Union were lower than planned—a shortfall of 9 per cent in the Soviet Union was relatively small compared with 18 per cent in the German Democratic Republic, and as much as 21 per cent in Bulgaria, 27 per cent in Czechoslovakia and a substantial 33 per cent in Hungary and Romania. In Poland, actual growth rates reached only 28 per cent of the planned rate. Secondly, and most importantly: comparison of the ratios of actual to planned NMP growth rates, and actual to planned labour productivity growth rates (columns six and nine of the preceding text table) clearly shows that the below-plan rate of labour productivity increases coincide closely with NMP growth rate shortfalls. In fact, in two out of the seven countries—Bulgaria and the German Democratic Republic—the planned to actual growth rate ratio is exactly the same for NMP and labour productivity (79 and 82 per cent respectively). In Czechoslovakia, Romania and the Soviet Union, the two rates differ only slightly (76 as against 73 per cent, 69 as against 67 per cent and 89 as against 91 per cent). In Hungary and Poland the ratios were noticeably different; in both cases, the labour productivity plan fulfilment ratio was higher than for NMP, but since these two countries recorded the sharpest declines in NMP against plan targets, the fact is not significant. Hence, it can be concluded that, in general, below-plan growth of labour productivity is a reflection of all factors that caused the deceleration in overall economic development rates in eastern Europe and the Soviet Union.

The figures for *material input and investment* efficiency indicate similar trends. This is particularly so as far as capital-output ratios are concerned. Although the incremental capital-output ratios already had relatively high values during the 1971–1975 period, five-year plans for 1976–1980, as can be seen from following the text table, implied further definite increases in all countries.

Taking into account that an important part of investment was directed to capital intensive branches, in particular energy and raw material industrial branches, this increase was, at least partly, to be expected. During the 1976–1980 period,

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[209] An explicit statement of this kind was pronounced at the sixteenth Congress of the Communist Party of Czechoslovakia, in the report of the Central Committee to the Congress by the Secretary General G. Husák: "One of the main reasons we did not attain all the objectives laid down is the fact that, despite some progress, we did not succeed in enforcing the desired turnabout in implementing the long-term strategic line of increasing the efficiency of production, in rationalization and the quality of all work, in higher effectiveness and realism in capital construction, and in application of the results of science and research in practice." *Rudé Právo*, 7 April 1981, p. 3.

**Incremental capital output ratio**[a]

| Country | Actual 1971–1975 | Five-year plan 1976–1980 | Actual 1976–1980 | Five-year plan 1981–1985 |
|---|---|---|---|---|
| Bulgaria | 4.5 | 4.0 | 5.8 | 9.4 |
| Czechoslovakia | 6.2 | 6.9 | 9.8 | 13.8* |
| German Democratic Republic | 5.6 | 5.8 | 7.6 | 5.1* |
| Hungary | 5.7 | 6.0 | 8.9 | 10.1 |
| Poland | 3.7 | 4.7 | 4.9 | . . |
| Romania | 3.0 | 3.7 | 4.9 | 5.7 |
| Soviet Union | 5.2 | 6.3 | 7.0 | 8.0 |

*Sources:* As for table 3.1.1.

[a] Ratio of gross capital formation to the increase of net material product.

however, incremental capital-output ratios rose noticeably in the Soviet Union and substantially in all other countries but Poland. They exceeded implied planned levels by 31 per cent in the German Democratic Republic, 32 per cent in Romania, 42 per cent in Czechoslovakia, 45 per cent in Bulgaria and even 48 per cent in Hungary. In Poland, the incremental capital-output ratio rose only slightly, but it is due more to an absolute decrease in investments in 1979 and 1980 than to a higher investment efficiency.

To overcome the negative consequences of decreasing capital productivity, nearly all countries of the region expanded investments over the planned levels. As a matter of fact, as can be seen from the text table below, gross investment ratios throughout the region were already quite high during 1971–1975. They varied between 30 per cent in the Soviet Union and the German Democratic Republic, up to 35.9 per cent in Hungary and 36.2 per cent in Poland. The table indicates that five out of the seven countries for 1976–1980 planned lower gross investment ratios. Some of the planned increments were small (Czechoslovakia, the German Democratic Republic and Romania), and some of them substantial (Bulgaria and Poland). The Soviet Union planned to maintain practically the same ratio as in 1971–1975, and Hungary a slightly higher one. Only two countries limited the growth of gross capital formation within the planned levels (Romania and the Soviet Union). All other countries of eastern Europe in 1976–1980 recorded levels above the plan indicators—by a small amount in Hungary, by larger margins in Czechoslovakia and the German Democratic Republic and there was a large excess in comparison with plans in Bulgaria and Poland. Due to the already high net capital formation ratios, a good deal of additional, above-plan investment was financed by net borrowing abroad, while at the same time other types of final consumption, in particular real wages per employee and real incomes per head, increased at rates lower than those envisaged by five-year plans (table 3.5.1) in all east European countries (except the German Democratic Republic) and the Soviet Union. It is clear that decreasing capital productivity, together with decelerating NMP and labour productivity growth rates, as illustrated in chart 3.1.2 on pages 123-125, in 1976–1980 was one of the main problems of centrally planned economies in relation both to past periods, and also by comparison with the planners' intentions (see text table below).

The findings presented above are in general confirmed by statements published in the countries under review. In fact, in plan fulfilment reports, in the guidelines for the 1981–1985 five-year plans, and in introductory comments on the subject as well as in different papers on past and future development strategies, several reasons are quoted to explain the declining growth trends described above. The most frequently given reasons are: the relatively high levels of economic development already achieved; increasingly scarce and costly energy and raw materials; an unusual frequency of climatically unfavourable conditions for agriculture during the last quinquennium; deteriorating terms of foreign trade; and shortcomings in management—in particular, behavioural inertia based on outdated styles of

**Gross investment ratio**[a]

| Country | 1971–1975 | Plan 1976–1980 | 1976–1980 | Plan 1981–1985 |
|---|---|---|---|---|
| Bulgaria | 35.1 | 30–32 | 35.6 | 34.7 |
| Czechoslovakia | 33.7 | 31–33 | 33.7 | 30.9* |
| German Democratic Republic | 30.0 | 29.2 | 31.0 | 26.2* |
| Hungary | 35.9 | 36.5 | 37.3 | 32.3 |
| Poland | 36.2 | 31.1–31.3 | 37.1 | . . |
| Romania | 34.1 | 33–34 | 33.5 | 34.6 |
| Soviet Union | 29.9 | 29.5–30.1 | 29.4 | 27.0 |

*Source:* As for table 3.4.1.

[a] Ratio of gross fixed capital formation to net material product.

**Changes in capital intensity[a] labour productivity[b] and capital productivity[c] in the material sphere**
*(Annual average percentage change)*

| Country | Capital intensity 1961–1965 | Capital intensity 1966–1970 | Capital intensity 1971–1975 | Capital intensity 1976–1980 | Labour productivity 1961–1965 | Labour productivity 1966–1970 | Labour productivity 1971–1975 | Labour productivity 1976–1980 | Capital productivity 1961–1965 | Capital productivity 1966–1970 | Capital productivity 1971–1975 | Capital productivity 1976–1980 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bulgaria | 10.6 | 10.2 | 8.8 | 8.0 | 7.2 | 8.2 | 7.5 | 6.1 | −3.1 | −1.7 | −1.0 | −1.9 |
| Czechoslovakia | 4.6 | 3.2 | 5.5 | 5.7 | 1.7 | 5.6 | 5.4 | 3.3 | −2.8 | 2.4 | −0.1 | −2.4 |
| German Dem. Rep. | 6.7 | 4.8 | 5.7 | 5.4 | 4.0 | 5.0 | 5.2 | 3.6 | −2.5 | 0.4 | −0.4 | −1.5 |
| Hungary | 5.7 | 4.4 | 7.7 | 8.3 | 4.7 | 5.4 | 6.2 | 3.7 | −0.9 | 1.2 | −2.9 | −3.2 |
| Poland | 1.5 | 5.5 | 5.6 | 9.1 | 3.2 | 5.5 | 8.1 | 1.7 | 1.7 | −0.6 | 1.9 | −6.9 |
| Romania | 6.3 | 8.2 | 8.4 | 8.9 | 7.9 | 7.3 | 6.6 | 6.7 | −0.1 | 1.3 | 1.1 | 1.1 |
| Soviet Union | 8.8 | 7.4 | 7.1 | 6.5 | 5.8 | 6.8 | 4.1 | 3.2 | −2.8 | −0.6 | −2.8 | −3.0 |

*Source:* National statistics.
[a] Fixed assets per employee.
[b] Net output per employee.
[c] Net output-fixed assets ratio.

TABLE 3.1.3

**Changes in net material product by kind of activity in the material sphere**
*(Average annual percentage change between final years of the period shown and final year of the previous five-year period)*

| Country and period | Total | Agriculture and forestry | Industry | Construction | Transport and communications | Trade | Other |
|---|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | | |
| 1971–1975 | 7.8 | 1.6 | 9.3 | 6.5 | 11.3 | 15.3 | 2.1 |
| 1976–1980 | 6.1 | −4.9 | 6.8 | 4.5 | 5.4 | 22.5 | 12.5 |
| *Czechoslovakia* | | | | | | | |
| 1971–1975 | 5.7 | 1.4 | 6.1 | 7.7 | 6.5 | 5.3 | 3.8 |
| 1976–1980 | 3.7 | −0.3 | 3.6 | 1.7 | 5.2 | 7.2 | −9.3 |
| *German Democratic Republic* | | | | | | | |
| 1971–1975 | 5.4 | 1.1 | 5.8 | 4.7 | 5.3 | 5.8 | 5.9 |
| 1976–1980 | 4.1 | 0.3 | 5.0 | 2.5 | 3.2 | 3.4 | 5.8 |
| *Hungary* | | | | | | | |
| 1971–1975 | 6.2 | 2.2 | 7.7 | 6.4 | 5.5 | 8.1 | .. |
| 1976–1980 | 3.2 | 0.9 | 4.0 | 2.7 | 2.0 | 2.5 | .. |
| *Poland* | | | | | | | |
| 1971–1975 | 9.8 | 1.1 | 10.8 | 13.4 | 12.6 | 11.1 | 14.1 |
| 1976–1980 | 1.2 | −2.6 | 2.6 | −5.3 | 4.1 | 3.2 | 1.7 |
| *Romania* | | | | | | | |
| 1971–1975 | 11.3 | 5.4 | 13.2 | 7.6 | 11.1 | 8.2 | .. |
| 1976–1980 | 7.2 | 2.2 | 8.5 | 6.4 | 5.6 | 7.9 | .. |
| *Soviet Union* | | | | | | | |
| 1971–1975 | 5.7 | .. | 7.8 | 6.0 | 7.2 | 6.3 | |
| 1976–1980 | 4.7 | .. | 5.0 | 3.1 | 3.6 | 3.9 | |

*Sources:* As for table 3.1.1.

management more suited to periods of factor-extensive economic development. No detailed analysis of the relative importance of these various factors is given. At all events, their incidence is likely to differ from country to country, and branch to branch which during the 1976–1980 period recorded rather different rates of growth (table 3.1.3).

The level of economic development, for instance, can scarcely explain the overall decelerating tendency of NMP and labour productivity growth rates. In fact arguments of this kind have been denied by economists in the region when economic performance of the developed countries were discussed in the literature of eastern Europe and the Soviet Union. Moreover, levels of economic development within the region itself are substantially different. The argument of unusually frequent unfavourable agricultural years within the 1976–1980 period is correct (see section 3.2), but as pointed out recently in some countries of the region, to the extent that unfavourable weather conditions recur on a more or less regular basis, they should be taken as a normal and even likely condition of growth, and overcome by appropriate agro-technical measures and improvements in management. Finally, the terms of trade did deteriorate for the bulk of the east European countries after the 1973 energy price explosion. But they actually improved very substantially for the Soviet Union.

All in all, while many factors negatively influenced the economic development of the centrally planned economies, they are not applicable to the same extent to all countries of the region and they cannot explain a number of tendencies common to all. Most of the countries are, and to an increasing extent, themselves criticizing the still widespread factor-extensive economic development process, which has certainly persisted much longer than consistent with factor availabilities. Management has still not fully adjusted to a more intensive process of economic development, and has continued to give priority to various quantitative gross indicators rather than to qualitative net indicators.[210]

Nevertheless, there are signs that these negative tendencies can be reversed. An important conclusion might be drawn from experience of an earlier period, the years from 1966 to 1970, as reflected in the preceding text table: with very few exceptions, the 1966–1970 period can be qualified as the most successful period of economic development of all east European countries and the Soviet Union in terms of the qualitative criteria now increasingly used for planning and evaluation purposes. During that period, capital intensity in five out of the seven countries grew at low average annual rates, labour productivity growth rates were by historical tendencies high in four and fairly high in the other three countries; capital productivity increased in four out of the seven countries, was nearly stable in two others and declined in one country only. It seems highly likely that evaluations which attribute high performance of this kind during the 1966–1970 period to management changes, in political documents and economic literature where they are referred to as economic reforms, are correct.[211] If so, the insufficient, partial and slow adjustment of economic management to the changing domestic and international conditions of economic development might be responsible to a high degree for some of the main shortcomings and current difficulties of some centrally planned economies of the region.[212] This judgment does not call into question their overall development outcomes, but nevertheless does challenge their future economic and social development. How is this challenge to be answered in five-year plans for the 1981–1985 period?

### (ii) Basic elements of five-year plans 1981–1985 (by country)

The analysis of major outcomes of economic developments in the 1976–1980 period, although concentrating on main issues only, has given plenty of evidence of the difference between the countries of the region. Indeed, the figures show that developments in these countries differ significantly from each other—not only as between eastern Europe and the Soviet Union (as in the field of foreign trade) but also with respect to differences between the east European countries themselves (e.g. levels of economic development, pace of economic growth, structures of NMP and foreign trade, etc.). There are, of course, important common characteristics between east European countries and the Soviet Union in both development policies and in management and planning practice, but the evaluation of development in each country should take into account all the individual features of those countries—size, population, natural endowment, position in the international division of labour, as well as, increasingly, the pace of economic growth, structural changes, foreign trade patterns and choice of options. To define the main characteristics of development strategies of the east European countries and the Soviet Union in the 1981–1985 period, therefore, the basic elements of the five-year plans of all of them need first of all to be presented. To provide a sound ground for their comparison, as well as for easier identification of their common features, the plans will be outlined using a more or less uniform presentation.

*Bulgaria*

A comprehensive evaluation of Bulgarian economic development was given to the Twelfth Congress of the Bulgarian Communist Party in the spring of 1981. The tone was set by the statement that: "The opportunities for extensive development have been largely exhausted ... The alternative is unmistakable: we must, in the forthcoming period, comprehensively adopt as a priority the intensive development of our economy and of all other spheres of our social life."[213] The eighth five-year plan for

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[210] A definite list of particular shortcomings and difficulties was given in the Report of Central Committee of the CPSU to the XXVI Congress of the Party, presented by L. I. Brezhnev: "There are still bottlenecks and disproportions in the national economy. The reasons for this vary. They include the operation of objective factors, of circumstances beyond our control. They also include shortcomings in planning and management, and they include insufficiently exacting attitudes on the part of a number of Party bodies and economic managers, breaches of discipline, and instances of mismanagement. But probably the most important reason is that the force of inertia, conventions and habits from the period when the quantitative rather than the qualitative aspect of the work loomed the largest, have still not been fully overcome." *Documents and Resolutions*, the 26th Congress of CPSU (in English), Moscow, 1981, pp. 47–48.

[211] "Experience shows that ample opportunities are hidden in possible re-adjustment of the planning and management system. This can be exemplified by the Soviet Union in 1965–1970, Hungary in the period of economic reform implementation, etc." A. G. Aganbegian, *op. cit.*, p. 9.

[212] An evaluation of that kind was explicitly given in the presentation of guidelines of the Soviet five-year plan 1981–1985 at the XXVI Congress of the CPSU: "The main reason for difficulties and shortcomings, for the weak points in the economy is, as was noted in the Central Committee Report, that we have not entirely done away with the force of inertia and the traditions and habits left over from the period when the accent was placed not so much on quality as on quantity." — N. A. Tikhonov, *Guidelines for the Economic and Social Development of the USSR for 1981–1985 and for the period ending in 1990* (in English), Novosti Press Agency Publishing House, Moscow, 1981, pp. 13–14.

[213] T. Zhivkov, in the Central Committee report presented to the Congress, *Rabotnichesko Delo*, 14 April 1981, p. 1.

1981–1985 aims to achieve this objective by building on the substantial increases in the country's economic and scientific potential during 1976–1980.

Neither the economic report on 1976–1980, nor the various plan documents for the period 1981–1986, analyze the specific factors influencing past developments and objectives laid down for 1981–1985. However, in the Guidelines of Economic and Social Development a number of common factors influencing development can be identified. A major feature of the current situation is the decreasing growth of the working age population which, combined with the relatively high labour participation rate already achieved (roughly 49 per cent) and the increasing demand for employment in the non-material sphere, limits the scope for any major increase in employment in the material sphere. A second constraint is the scarcity of domestic natural resources other than coal and land. A third factor influencing development of the economy is import dependence on a broad range of raw materials, and the high concentration of Bulgarian foreign trade with the CMEA countries, the share of which in 1980 amounted to roughly 73 per cent of the country's trade turnover, with the Soviet Union alone accounting for some 53 per cent.

The main task of the current five-year plan is "to pursue the line of the comprehensive satisfaction of the people's steadily growing material, intellectual, and social needs on the basis of intensifying the national economy, of consistent application of a new economic approach and its mechanisms and of further perfecting socialist relations in our economy". The Guidelines of the plan have nearly the same formulation and present these broad objectives in seven categories: (1) further development of the material-technical basis according to the slogan "Everything in the name of man—everything for the benefit of man"; (2) all-round intensification of the national economy and, on this basis, a further increase in the efficiency and quality of production; (3) further technical progress and its rapid implementation in all branches; (4) improvement of socialist labour organization on the basis of full use of material inputs, labour and capital; (5) the training of managers and supervisors in accordance with the requirements of scientific and technical progress and modern management techniques; (6) protection of the natural environment; (7) an expansion of the country's participation in socialist economic integration, which is viewed as an important pre-condition for the intensification of the economy. These objectives were incorporated, with minor modifications, into the Law on the five-year plan.

The Law stipulates a 3.7 per cent average annual *growth rate of national income* between 1980–1985. This rate of growth is considerably lower than the 6.1 per cent achieved in the previous quinquennium and lower than the 4.6–5.4 per cent envisaged by the Guidelines. However, when the plan was approved in Parliament it was stated that the rate "corresponds to the resources available to the country". The bulk of the rise in national income, according to the plan, should take place as a result of progress in efficiency, the average annual rate of enterprise profits being expected to grow by 9.9 per cent, more than 2.6 times faster than NMP (3.7 per cent).

The *structural adjustments* provided for in the plan are headed by further overall industrialization of the country; industry is in fact the only sector which will increase its share of NMP, with growth specified at a 5.1 per cent average annual rate. It was stated that industry's share will rise to 52 per cent by the end of the plan period compared with 46 per cent in 1980.[214] Agriculture, which, according to the *CMEA Statistical Yearbook 1981*, accounts for a higher share of national income than in any other European CMEA country (16.7 per cent in 1980), will grow somewhat more slowly (3.4 per cent annually) than NMP. Transport will increase by an average of 2.8 per cent in terms of physical units, which is slightly higher than the annual rate planned for construction (2.3 per cent). No comparable figure was given for trade, the third largest sector in NMP after industry and agriculture but retail turnover is targeted to rise by an average 3.9 per cent annually—somewhat higher than national income.

Within industry, the highest average annual rate of growth planned is for the machine-building industry—as much as 8.5 per cent annually, closely followed by the chemical industry at 7.7 per cent annually. Of the other branches, energy and ferrous metallurgy are planned to grow faster than average—by an annual average rate of 5.4 per cent (against 5.1 per cent for industry as a whole). Although light industry will grow less than the average rate, by 4.6 per cent, the difference is noticeably smaller than in previous years. In the energy sector, power stations based on coal and nuclear energy will develop fastest, nuclear electric energy being scheduled to reach some 27 per cent of total electricity production by 1985. Within the engineering industry, heavy and metal-working machines, computers and associated equipment, automation equipment, metal-ceramic products, communications and medical technology constitute the leading sub-branches, with growth of output targeted at 10–15 per cent per year. Within *agriculture*, an expected crop production of 3.2 per cent, compared with the over-all growth rate of 3.4 per cent, suggests that arable output will be the main growth area. Within *transport*, sector priority will be given to the rail communication network, reserving automobile transport developments for regions without railway lines and for short hauls. In all cases, special attention is paid to achieving economies in energy and labour resources.

Some considerable changes are implied in the five-year plan, if the growth rates of *gross fixed capital formation* and national income are compared: for the first time, investment is planned to grow at a lower rate (2.7 per cent annually)[215] than NMP (3.7 per cent). A smaller increment of investment will hence be expected to support growth, an outcome which will be possible only if projected plans for rationalization and efficiency are fulfilled. Out of 37 billion leva[216] of total gross investments envisaged for the five-year period, some 73 per cent are expected to be allocated to the material sphere. Reflecting the plan's orientation towards increasing efficiency, a further rise will take place in the share of investments for modernization, reconstruction etc.—to some 70 per cent of all allocations to the material sphere—leaving only 30 per cent for the construction of new projects. The Law on the five-year plan calls upon management and planning organisers to concentrate on projects already begun and to accelerate the commissioning of new capacities with a view to reducing the share of unfinished construction compared with total investment to some 80 per cent by 1985. The investment programme is expected to result in an increase of fixed assets to a sum totalling 110 billion leva (compared with 77.1 billion in 1980); of which fixed assets in the material sphere will amount to 75 billion leva.

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[214] There is an uncertainty about this objective, however. According to the *Bulgarian Statistical Yearbook*, 1981, (p. 141), the share of industry in national income was 57.0 per cent in 1980, while according to the *CMEA Statistical Yearbook 1981*, (p. 44) it amounted in the same year to 51.8 per cent. Both figures imply Bulgaria had already achieved the share defined by the plan as an objective, unless K. Zarev, Deputy Prime Minister, who reported the figures quoted in the main text, used a different price basis from those applied in the statistical yearbooks referred to above.

The determination to shift the economy towards an intensive growth path is particularly clear from the plan's *labour supply and labour productivity* projections for 1981–1985. Labour productivity is targeted to rise between 1980 and 1985 by "not less than 25 per cent" (4.6 per cent at an average annual rate), "while in strategic areas of production it should increase by even higher rates." This would build up to an economy in the demand for labour of some 800,000 workers by the end of the period. Given that labour productivity rose at an annual rate of 6.1 per cent between 1975 and 1980, the target seems attainable. However, a number of definitional obscurities complicate interpretation of Bulgarian national income, labour force and labour productivity statistics. The increase of a least 25 per cent in labour productivity announced for 1980–1985 is larger than the 20 per cent rise planned for NMP. This indicates an intention to reduce the number employed in the material sphere of the economy, though the five-year plan Law does not contain any specific confirmation on this point. The four remaining years of the current five-year plan period will show whether rather faster employment in the non-material sphere is envisaged, or whether the authorities take into account the possibility of a higher rate of NMP growth than the target published in the plan. The Bulgarian five-year plan gives no specific figures concerning labour productivity in individual sectors.

With regard to changes in *material inputs* and in particular in their efficiency, the presentation of the five-year plan to the Twelfth Congress of the Bulgarian Communist Party contained the statement that "It would be necessary during the course of the eighth five-year plan itself to ensure without delay the intensified and comprehensive use of raw materials, by applying technological methods which result in little waste or no waste at all ... We must wage a struggle for efficient use of all energy and raw material resources in all places; excessive consumption of energy and raw material in production must be reduced." Separate attention is paid to recycling raw materials, to the point of cutting supplies of a number of raw materials to enterprises unless they observe the norms laid down for their consumption of inputs per unit of output, and unless they deliver waste products for recycling according to the established norms. It was announced at the Congress that "long-term national programmes have been worked out for an economical use of energy resources, for the application of technological methods which guarantee waste-free production, and for the utilization of secondary raw-materials". The five-year plan Law fully confirms such an approach, including as one of the nine main plan targets a requirement "to use labour, raw materials, energy and other material resources of the country rationally ... to increase science-intensiveness and to reduce the raw material, capital and labour intensity of production".

As far as *scientific and technical progress* is concerned, the plan lays down three main orientations aimed at faster implementation of scientific results in the development of the national economy in order to accelerate improvement in production techniques and the attainment of higher quality. In connection with the first objective the plan makes provision for more than 950 national level projects, of which 315 deal with new and innovative products, 342 with new technologies (of which 38 with waste-free production methods and 238 with automation). Secondly, scientific-technical progress should, according to the plan, be implemented in close co-operation with the Soviet Union and the CMEA countries and should exploit to the full the experience of other countries. Third, the investment programme summarized earlier will be allocated to ensure the provision of complex mechanization and automation of production, a reduction of manual labour, and of especially onerous and unattractive work.

Very few figures are given with respect to *foreign trade* though it is expected to be one of the most dynamic sectors of the economy; trade turnover is planned to rise over the five years by some 40 per cent in total—the average annual growth rate of 7.0 per cent is about twice as high as that planned for NMP. The plan stipulates an increase in the share of the socialist countries in Bulgaria's trade turnover—to about 80 per cent as against 74.6 per cent in 1980. This projected shift is important since it reverses the trend over the last two quinquennia, when the share of socialist countries fell from 77.8 per cent in 1970 to

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[215] Adjusted for price increases in 1980, this indicated a total rise of 11.7 per cent (2.3 per cent annually) between 1976–1980 and 1981–1985.

[216] In the Guidelines for the *Development of the National Economy* in 1981–1985, *Rabotnichesko Delo*, 16 February 1981, p. 2., an amount of gross investment of some 31 billion leva in 1976–1980 was reported. Since for 1981–1985 period a sum of 37 billion leva was reported, this would imply an increase over five years by 19.4 per cent, some 3.6 per cent on average annual level. In the bill of five-year plan no figure for the growth of gross investment was reported—that of 14 per cent was given by Mr. K. Zarev in the report on five-year plan to the Parliament, *Rabotnichesko Delo*, 11 December 1981, p. 2. The difference between the two is clearly due to the different price basis used in the plan, indices being given at constant and absolute figures at current prices.

75.8 per cent in 1975 and 74.6 per cent in 1980. Indeed, it indicates a return to the pattern of Bulgarian foreign trade before the 1970s.[217] However, the plan does explicitly call for "an intensification of foreign economic relations with developed and developing non-socialist countries on the basis of equal rights and mutual advantage".

A number of uncertainties complicate analysis of the *allocation of resources for domestic use* during the current five-year plan period. The fact that the share of *net capital formation* ratio in distributed NMP will rise, while the growth of gross capital formation is expected to lag behind produced NMP suggests (in the absence of very big changes in depreciation rates) that the growth of distributed NMP will, in fact, be substantially less than the production aggregate.[218] At all events, these movements would appear to leave ample room for a reallocation of resources to the external balance, though this is not explicitly provided for in the plan.

This interpretation receives some support from the relatively lower growth rates retained for individual consumption categories relative to NMP growth. Within the consumption fund, real incomes are stated to rise by an average annual rate of 2.8 per cent. The same rate is envisaged for the average monthly amount, which should rise from 182 leva in 1980 to 209 leva in 1985. The minimal wage will be raised to 120 leva. In line with long term socio-economic objectives, the social consumption fund will rise faster—by an average annual rate as high as 3.2 per cent. In particular, transfer payments for social security purposes will be augmented and an increment of retirement pensions will be introduced. The minimum retirement pension by the end of the period should reach half the minimum wage (60 leva). Regional income differences are expected to diminish, and the spread of income differentials in general will be narrowed throughout the country. Rising incomes will be paralleled by improved availability of goods, retail trade turnover increasing by an annual 3.9 per cent or somewhat faster than incomes. The supply of consumer goods will rise by 6.2 per cent per year, while the provision of services is expected to climb even faster—by an average annual rate of 8.5 per cent. Growth of living standards will also be boosted by the completion of some 360,000 dwellings during the plan period; the number of dwellings by the end of the period should be equivalent to 96 per cent of the number of families (compared with 89 per cent in 1980).

The five-year plan Law mentions very little on questions of *management and planning*, stipulating only the "implementation of economic approaches and mechanisms in all branches and activities of national economy" in relation to the achievement of planned tasks. The implication is that Bulgaria will continue to implement changes in the system in line with those started in the 1970s. Several indications of the main directions of further change emerged at the Twelfth Party Congress, in the context of the "new economic mechanism" already introduced. Central planning is to concentrate "primarily on determining and defining a long-term state economic policy, upon achieving a satisfactory magnitude of development, upon the attainment of inter-branch balance and upon ensuring the conditions necessary for the harmonious development of the economy and of the entire social organism". This reorientation of the function of the central planning organism is expected to improve the efficiency of planning; at enterprise level, managerial independence is to be extended and the number of enterprise targets set from above and the number of performance indicators will be reduced, hence leaving more scope for enterprise management to react spontaneously to changing conditions. Innovations in planning will include the implementation of "simultaneous planning" by economic organizations at all levels, designed to provide feedback between them and hence facilitate the achievement of optimal solutions based on iterative procedures. Within enterprises, the "brigade" system of organization will be reinforced: under this system, assignments are handed down by enterprise managements in conformity with the plan; it is the responsibility of the brigade to accomplish its task by making the best use possible of available production capacities, materials and manpower. Brigades would in principle operate independently on the basis of full cost accounting, though the nature of their relation to the enterprises is not yet fully clear—at least in industry. At all events, enterprises as now constituted will attempt to fulfil the requirements of the plan, but are expected to take into account conditions on domestic and foreign markets, to ensure optimum resource availability and to maximize sales. Proceeds from the latter provide resources for the financing of material costs and depreciation, the remainder accruing to and constituting the income of the enterprise or brigade concerned; on this sum are levied taxes and other charges, and it is the source from which interest on bank credits, loan repayments and insurance premiums is paid. The residual is then allocated to wages and profits, which are thus dependent on marketed output of the enterprise (brigade). The main criterion for, and source of additional wage payments is profit performance.

The above summary, which is taken more or less directly from the Guidelines which accompanied the presentation of the plan, suggest that under the new mechanism the economy should increasingly operate subject to market forces, both domestic and international. A decision to improve the economic mechanism along these lines, to be implemented from 1st January 1982 was published on 30 December 1981. Although comprehensive regulation of management and planning by this decision repeats the principal points of a previous decision implemented during recent years, a recent evaluation describes the new mechanism as "more mature, more active and more accomplished and (having) some new features too".[219] Problems of reconciling plan objectives with market conditions and criteria for decision-making when conflicts occur, however, still remain to be resolved in practice. It will, therefore, not be possible to assess the new economic mechanism fully for several years.

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[217] Socialist countries accounted for 84.7 per cent of Bulgarian foreign trade in 1956 and 83.9 per cent in 1960.

[218] Unless the resource shift is to be very large, the 25 per cent goal of accumulation in NMP would appear to be at current prices—indicating a further rise in investment prices.

[219] For a detailed presentation of the premises and logic of the new Bulgarian economic mechanism made by the Prime Minister, Mr. G. Filipov in *Rabotnichesko Delo*, 15 January, 1982, pp. 2–4.

### *Czechoslovakia*

For the seventh five-year plan of Czechoslovakia, covering the period 1981–1985, the economic strategy is, as in previous five-year plans, based upon increasing the efficiency of productive factors in order to achieve a more intensive type of economic development. During 1976–1980, the national income of Czechoslovakia increased by 20 per cent, equivalent to an average annual growth rate of 3.7 per cent. Important changes took place in the structure of output and demand. Trading relations with all the main trading areas continued to expand.

Economic development during the period was affected by deteriorating internal and external conditions, and it proved impossible to achieve the planned pace of economic development. The planned strategy, to increase efficiency and to base domestic growth performance on the full utilization of intensive growth factors were only partially implemented. In particular, the application of scientific-technical progress was unsatisfactory. The growth of domestic demand was adversely affected by deteriorating terms of trade, but restrictions on the growth rate of net material product distributed succeeded in slowing down the rise in the foreign trade deficit.

The exhaustion of extensive growth factors has now reached a point at which the attainment of objectives to implement the intensification of the economy is a necessary condition for the achievement of all major growth aggregates. During the current quinquennium, the active population of the country will rise only marginally—by a maximum of 70–80,000[220] compared with 285,000 between 1975 and 1980. Pressure to limit investment also precludes a growth path based on extensive developments; indeed, for the period 1981–1985 the annual average level of investments in volume terms will apparently fall somewhat as compared with 1980. Profound changes will occur in the availability of material inputs. Imported fuels and energy will be constrained by balance of trade considerations, and prospects for the expansion of domestic supplies of these materials are limited in both quantity and quality, as well as by the high investment intensity of fuel extraction and energy production. There will also be limits on the production of metals, and it will be necessary to implement consumption savings of 4.5–5.0 per cent annually if the planned production targets of user branches are to be fulfilled. The combination of a likely further deterioration in the terms of trade, the effect of policies to restore balance of trade equilibrium together with the changed internal conditions of growth, will complicate considerably the development of the country.

Despite substantially worsened conditions, the general line followed in the past is to be continued. "The cardinal aim of the Party's policy is to maintain and improve the quality of the already achieved high living standards of the population and of their social certainties, in keeping with the results which will be attained in the development of the national economy."[221]

In sum, the attainment of planned objectives is thus to be based on greater intensification of the economy, higher efficiency, better quality, effective structural changes, faster scientific-technical progress and expanded trade relations with other socialist countries.

The process of gradual adaptation of the national economy to the new conditions and targets for improving internal and external equilibrium necessitates some slowdown in the planned rate of growth of net material product. During the current period, the plan envisages an average annual rate of *net material product* produced within the range of 2.0–2.6 per cent—the lowest rate in the country's five-year plans and also the lowest of the current five-year plans of all socialist countries apart from Poland. The achievement of this aim will still be rather difficult and will require substantial increases in the growth of efficiency. The restoration of external equilibrium will call for a faster growth of net NMP produced in relation to NMP distributed.

*Structural change* will be subordinated to the requirements of the economy as a whole, notably by promoting export performance, reducing import demand and qualitatively, rather than quantitatively, maintaining and improving the standards of living already attained.

At the macro-economic level, the *industrial sector* is expected to continue to set the pace of overall growth with an average annual rate of expansion of 2.7–3.4 per cent (gross output basis). *Agricultural output* is scheduled to rise somewhat more slowly—by 1.4–1.9 per cent annually over the 1980 levels. No target is given for the construction industry, but the zero growth plan for investment suggests that output growth will be limited.

Within industry, priority for expansion will be given to those industrial branches contributing to positive qualitative changes in the economy, notably those which promote export expansion or which are based on domestic raw materials. A partial retrenchment will take place in branches which are highly energy-material or import-intensive. Engineering will occupy the key position in industrial expansion, with a 5.1–5.9 per cent annual average growth rate (electrical engineering output will rise by 6.3–7.3 per cent). The next highest growth rate is scheduled for wood-processing (4.1–4.6 per cent annually). Light industry output is expected to rise by 2.3–2.8 per cent per year, and the chemical industry by 1.4 per cent annually.

The overall long term objective for agriculture is to bring about a permanent increase in the degree of self-sufficiency in food supplies. In order to remove imbalances between crop and livestock output, which has given rise to imports of fodder, it is envisaged that output of livestock products will be developed at rates determined by the availability of fodder.

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[220] Report of L. Strougal on Main Direction of Economic and Social Development of Czechoslovakia in the Period 1981–1985, *Rudé Právo*, 8 April 1981.

[221] Guidelines for the Economic and Social Development of Czechoslovakia in the 1981–1985 period, *Czechoslovakia Foreign Trade*, No. 9, 1981.

The dynamism of *investment* decreased gradually at the end of the 1970s. Nevertheless, expansion during the period 1976–1980 was rather high and the gross investment ratio rose in comparison with 1971–1975 to 33.7 per cent (adjusted for price changes). For the period 1981–1985 the average annual volume of investment is expected to total 135–150 billion crowns[222] (compared with an average of 143.2 billion crowns during 1976–1980 and 150.2 billion crowns in 1980). In general, priority in allocating new investment will be given to the energy sector, to the export industries and to the modernization and reconstruction of the existing stock of fixed assets in order to reduce labour and material inputs. In the non-productive sphere, new investment will be concentrated on complex housing construction and on a number of priority infra-structural projects.

*Labour supplies* in the period 1981–1985 will be less abundant, due to slower population growth in the 1960s. As a result, the total increase in employment over the period 1981–1985, about 1 per cent, will be much less than the 3.8 per cent recorded in the preceding five-year period. For this reason, the share of NMP growth to be accounted for by *labour productivity* improvements has been set at 90–95 per cent—slightly higher than the result actually achieved in 1976–1980.

Structural changes in employment will follow previous trends. Employment in the primary sector will continue to diminish, though relatively slowly. Employment in manufacturing will remain stable and the increase in the labour force will be channelled to different branches of the services sector, especially trade, education, medical care and science.

The emphasis laid on the dependence of economic development targets on substantial economies of *material inputs* in comparison with previous years has already been noted. Better utilization of fuel, energy and other materials and the structural change oriented towards less energy and material-intensive branches should, if achieved, ensure that the growth of NMP product will outstrip the growth of gross social product. The urgency of this question is highlighted by the projected lowering of the various consumption norms for fuel, energy and other raw materials, by a more intensive search for domestically produced import substitutes, and by improved use of recycled waste products. Special attention will be devoted to more economical use of crude oil and natural gas, expected to result in annual average savings of 2 per cent in fuel and energy over the years 1981–1985. For metals, annual savings of 4.5–5 per cent are expected in manufacturing industry. State target programmes for rationalizing the consumption of primary material resources are to be worked out in detail and comprehensively applied.

Consistent application of the results of *scientific and technical progress* is considered a basic factor in increasing the overall efficiency of the national economy. At every level of management, the technical development plan is to be organically linked with other parts of the economic plans. Research and development work and its application in production is to be directed towards the introduction of new products and technologies leading to better use and more sizable savings in fuel and energy, metals, and to improving the quality of industrial processing. In particular, the accelerated development of electronics and microelectronics, waste recycling, improvements in performance and service life of machinery and equipment, a speeding up of the innovation process, wider application of mechanized and automated production methods (including industrial robots), the development of efficient large-scale production technologies, improvements in livestock breeding and the application of biological and chemical techniques to crop and livestock production, the rationalization of forestry and water conservancy work, the improvement of environmental protection efforts are the main priority areas. The programme will be headed by 18 basic research target projects laid down by the Academy of Sciences of Czechoslovakia for the period 1981–1985.

The expansion of the Czechoslovak economy and the increase of its efficiency depend to a great extent on an active *foreign trade* policy and on the expansion of trading links, especially with the socialist countries. Foreign trade turnover is expected to grow faster (by 6.2–7.0 per cent) than NMP (2.0–2.6 per cent). The restoration of trade equilibrium will call for a faster growth of exports than of imports, especially with the non-socialist countries, a task which ranks amongst the most demanding tasks of the five-year plan. With regard to Czechoslovakian exports, faster response to the situation prevailing on world markets, improvement of the export structure, and of the technical standard and quality of exported goods are stated to be necessary. Export structures need to be improved, notably by increasing the output of products with a high value added.

To accomplish these tasks, the continued promotion of industrial, scientific and technical cooperation is seen as necessary, together with a strengthening of the long-term character of these arrangements. Imports should be oriented towards essential raw and other materials, and towards machinery of the highest technical standards which can be used to achieve a rapid offset to the foreign currency costs of their acquisition. Stricter currency regulations governing imports will be introduced to ensure compliance with these objectives.

With regard to *domestic resource allocation*, policy objectives to restore external equilibrium call for faster growth of NMP produced compared with the growth of resources for domestic use. Though no precise figures are given, it is stated that the share of *net investment* will fall and that of consumption will rise relative to NMP distributed. For *consumption*, the formulation of the basic aim of economic policy in the 1981–1985 period stresses the further improvement of living standards. Nevertheless, the increase in final consumption is likely to be very small, and the stress is laid rather on the qualitative aspects of living standards. The incentive role of *wages and salaries* is to be strengthened, by linking payments more closely with the results achieved. This strategy will depend for its success on improving the supply of consumer goods—particularly the supply of high quality, technically advanced industrial goods of which special mention is made in the plan. In the field of *social consumption*, the policy objective is to maintain the existing range of free health, social education, cultural and other services—though allocations for these purposes will rise more slowly than in previous years. *Housing conditions* are to be improved by construction of 480–550,000 new flats.

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[222] *Hospodářské Noviny*, No. 52, 29 December 1981.

The implementation of the main objective of the five-year plan is closely connected with improvements in *the system of planning and management.* From 1981, a new system of management has been introduced in Czechoslovakia—the "Measures for Improving the System of Planned Management of the National Economy after the Year 1980". The changes are comprehensive in character and include modification to the system of economic planning, broader implementation of cost-accounting principles, improvements in the economic basis of decision-making and increased emphasis on qualitative indicators of enterprise performance. Further amelioration of the planning system is foreseen in the direction of creating a linked complex of long-term, medium-term and short-term plans, increasing the role of qualitative and performance indicators and the incorporation within the existing executive planning organisms of the various state target-oriented programmes for promoting the structural changes required in the economy. Changes in the system of wages, prices, taxes, credits and financing are oriented towards promoting efficiency at individual worker and enterprise levels, and more economical use of productive resources of all kinds. Incentives systems will include performance criteria based on qualitative indicators. Increases in wages are now linked with performance in increasing value added and profitability. A gradual reform of wholesale prices will be implemented which will reflect changes in production costs and in the price of imported goods. Two stages in the price reform have now been completed: as from 1 January, 1981, wholesale prices of fuel, energy and some raw materials were increased, and from 1 January, 1982, further increases in wholesale prices of fuel, energy, raw materials, some industrial products, construction works and transportation tariffs were introduced. Improvement of the organizational structure and standard of managerial work at ministries, production-economic units and enterprises is envisaged. The production-economic units have been created as the basic link in the organizational structure of industry, with responsibilities for planning and implementing the technical and economical development of the corresponding branches.

### *German Democratic Republic*

The 1981–1985 five-year plan of the German Democratic Republic is based on "stable, continuous and dynamic development of the national economy in the period 1976–1980" (an average annual rate of growth of 4.1 was maintained). Conditions during that period were, nevertheless, not easy—due in particular to the growing scarcity and rising prices of the fuel and raw materials on which the economy is highly dependent. The consequent downward pressures on growth rates were overcome on the production side, where the pace of advance was sustained by productivity improvements. The impact fell mainly on resources for domestic consumption, NMP distributed growing by less than NMP produced in volume terms in most years between 1975 and 1980 as a whole. Despite these efforts, sizeable balance of trade deficits due to advance movements in the terms of trade were registered in all years, the elimination of which is an important objective for the current plan period.

Economic development during 1981–1985, therefore, will be influenced by both positive and negative growth factors. The capital intensity of labour, modern equipment, especially in industry,[223] large financial allocations for research and development (about 4 per cent of the national income in 1976–1980), as well as the existing skilled labour force will be important elements in the task of increasing the efficiency of the production process. On the other hand, possibilities for expanding the use of raw material and energy inputs are either physically very limited or very costly. The achievement of planned objectives at a time when the growth of the available labour force is decelerating will require a great effort. Following a similar strategy to that pursued in 1976–1980, the central management objective of the plan will be to ensure higher efficiency in the use of labour and fixed assets during the current five-year period, since investment expenditures are expected to flatten out.

The plan thus stresses improvements in resource utilisation as a precondition of stable and buoyant economic growth.[224] The long-term strategic orientation of increasing material and cultural welfare has been confirmed. Increasingly successful intensification of the economic process, based on scientific-technical progress, will be the main engine of growth. A principal objective will be to improve the foreign trade balance; exports expansion is specifically singled out for priority attention, and the importance of measures to restrict material input suggests some slowdown in the pace of imports.

During 1976–1980, progress was made in the industrial sector in reducing inputs per unit of output—though they rose per unit of output for the economy as a whole. The assumption underlying the overall growth targets of the plan is that resource saving can be extended throughout the economy. On this basis, the *net material product* produced is planned to increase by an average 5.1 per cent annually during 1981–1985. Although not the highest NMP target in the region, it is the only one which has been set to exceed the previous plan period. Continuing past trends, the growth of NMP distributed will have to grow somewhat more slowly than NMP produced if the desired improvements in the foreign trade balances are to be achieved.

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[223] Almost 40 per cent of the present stock of equipment, in terms of value, is no more than five years old. Report by W. Stoph on the five-year plan directive on the Tenth Congress of SUP.

[224] Law of the five-year plan 1981–1985; *Gesetzblatt der DDR*, 1/35-1981.

The target figures on a sectoral basis do not indicate that any significant changes will take place in the *structural pattern of output. Industry* will increase its share in NMP (according to national statistics 61.9 per cent in 1980) with a planned growth, at 5.5 per cent annually, faster than all other sectors. Within industry, above average growth rates are planned for engineering—some 7 per cent annually on average; since it is already the main exporting branch further concentration of production for sale abroad is stressed. It is also the branch upon which intensification plans, notably those conditional on improvements in the quality of fixed assets, depend most heavily.[225] All other branches of industry are expected to concentrate on improving the quality rather than raising the quantity of production, and to reduce input per unit of output.

No figures for the planned growth of *agriculture* have been published. The plan gives a 5–6 per cent growth target (in physical terms) for crop production over the whole period (about 1 per cent annually). This, together with the envisaged target for state procurement of livestock products in 1985, leads to the conclusion that the 1.1 per cent annual average growth rate achieved in 1976–1980 is planned to remain unchanged. The main objectives are apparently to reduce the gap between crop and animal production, to overcome stagnating and even, in some cases, decreasing yields per hectare in grain output, potatoes and sugar beet, and to restore and improve soil fertility. In livestock production stress is laid on the efficient use of domestic fodder resources in order to reduce feed grain imports and to increase the efficiency of livestock production.

*Construction* is expected to increase moderately—at a 3.4 per cent annual average rate, which is similar to the performance in 1976–1980. A slightly increasing share in total construction output can be expected in the sub-branch responsible for housing construction. One strongly emphasized aspect of intensification—shifts within investment activities towards machinery and equipment rather than construction activity—is very apparent for this branch.

No target figures are given for the output of *transport.* Further structural changes will take place in favour of railway and inland waterways with the aim of decreasing this sector's energy consumption by 28 per cent between 1980 and 1985. For this reason, electric locomotives are to replace oil-fired engines in railway transport; about 700 kilometres of line will be electrified, raising the share of this type of traction to around 20 per cent of total rail transport output.

*Investment* targets reflect the central emphasis placed on intensification. Total outlays will amount to 256 billion marks during this period. The implied annual average of 51.2 billion marks is about the same as 1979 and about 1 per cent less than in 1980, and represents a sharp decrease in the average annual growth rate of gross fixed investment from 5.1 per cent in 1976–1980 to about 1.1 per cent in 1981–1985. The intention is to restrict the number of new project starts to the most urgent. The gestation period for projects will generally be limited to two years. Investment efficiency (expressed in terms of the increase in marketed output per unit of investment) is expected to rise by about 20 per cent compared with 1976–1980.

The implementation of this ambitious target would not only reverse negative tendencies in capital productivity,[226] but would also result in a smaller rise in the degree of capital intensity associated with a given level of labour productivity.

This target is essential if the decelerating rise in the *labour force*—which could fall to zero in the second half of the 1980s—is to be offset during the current plan period. It is not intended to expand employment in the material sphere of the economy, where employment in any case expanded at less than 0.5 per cent annually between 1975 and 1980. The progressive introduction of industrial robots, projected at some 45,000 during the current plan period, could save about 112,500 jobs—about 1.7 per cent of the number employed in the material sphere in 1980. This is one component of a total planned saving in manpower of very approximately 240,000 workers in 1981 rising to about 320 000 workers in 1985—equivalent respectively to about 2.9 and 3.9 per cent of the total labour force in 1980.[227] Within the material sphere, no shifts in the labour force between sectors are envisaged. The agricultural labour force has occupied a stable share of total employment for several years, and the slowdown expected in the pace of the rationalization of agricultural production, which accelerated in previous period, will further limit possible shifts from agriculture to other sectors. The entire increment in NMP will depend on labour productivity gains, and will not be boosted by switches of labour from other low to high productivity sectors.

Ambitious targets are fixed in the five-year plan for increasing the *efficiency of material inputs.* As noted earlier, the plan specifies that the national output must be achieved with virtually no growth of the volume of raw materials and energy. To this end, the rate at which economies in inputs per unit of output will have to rise will nearly double—from an annual

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[225] **Output in 1985**
*(1980 = 100)*

| | |
|---|---|
| Total engineering | 141 |
| Microelectronic components (integrated circuits) | 435 |
| Data processing equipment | 270 |
| Numerical control equipment | 397 |
| Machine tools | 165 |
| Cold-forming machine tools | 162 |
| Open-cast mining equipment | 155 |
| Cement mills | 175 |
| Agricultural machinery | 150 |

*Source:* Law on the five-year plan 1981–1985, *Gesetzblatt der DDR* 1/35-1981.

[226] Capital productivity should be increased by 5.1 per cent during 1981–1985.

[227] Secretariat estimates based on planned savings of working hours in 1981 of 490 million, increasing to 660 million in 1985; utilization of free labour force for other productive purposes and improvement of working conditions.

average of 3.9 per cent in 1976–1980 to 6.1 per cent in 1981–1985. The plan documents stress that savings of such dimensions cannot be implemented on the basis of the existing range of products, but must be accompanied by the introduction of new products with better cost-price-weight ratios, and in the case of capital goods, with better performance in terms of energy and technological effectiveness. Specifically, the plan foresees an improvement in the ratio of NMP to gross social product of some 15 per cent during the five-year period. Specific economy targets are also laid down for the period between 1980 and 1985: for rolled steel, 2.2 million tons; aluminium, over 50,999 tons; copper, about 15 000 tons and cement 1.9 million tons.

Clearly, the five-year plan is highly dependent, perhaps to a greater extent than in previous periods, on the rapid and efficient development of *science and technology* for the achievement of these aims. The share of expenditures in this area in NMP are planned to rise "noticeably". Research and development lead times should, according to the plan, be shortened, and the time needed to introduce new technology into the production process is to be reduced. The main effort will be concentrated on micro-electronics, robotics and electronic data processing as a management tool.

Taking into account the high dependency of the German Democratic Republic on imported raw materials, the absence of oil for fuel and chemical industry feedstock and the heavy dependence of primary energy supplies on costly brown coal, stable and efficient *foreign trade relations* are of crucial importance. No quantified over-all targets for total trade turnover or for exports and imports were published in the five-year plan document. It seems clear, however, that turnover and especially exports will have to rise faster than total output and imports if raw material supplies are to be assured and exports and imports are to be equilibrated.[228] As before, the Soviet Union will continue to be the main trading partner of the German Democratic Republic, occupying a share of nearly 40 per cent of total turnover. The value of mutual deliveries will amount to about an annual average of $US 18 billion (11.6 billion transferable roubles or 55 billion marks GDR) at 1981 prices during 1981–1985.[229] Increasing co-operation in research and production is also scheduled. Foreign trade turnover with the total CMEA region should rise by an annual average of 7.5 per cent, and deliveries based on about 500 bi- and multi-lateral specialization and co-operation agreements will be even faster. Exports to other centrally planned economies are expected to increase by 50 per cent between 1980 and 1985. Foreign trade relations with developing countries will be further expanded on the basis of existing long-term agreements. A slight increase in the share of these countries in the total foreign trade turnover of the German Democratic Republic can be expected. Concerning relations with developed non-socialist countries, the principle of equality and mutual advantage and the promotion of transactions based on long-term agreements has been stressed.

Judging from the restrictive investment policy, and the above-mentioned measures to raise the efficiency of factor inputs, changes in the *allocation of national income* appear to be called for. The share of accumulation is envisaged to fall from 21–23 per cent in 1976–1980 to around 20 per cent in the current five-year plan. An average increase in publicly financed (social) consumption of some 4.7 per cent annually between 1980 and 1985, together with an average annual 3.7 per cent increase in net money incomes would permit real income per capita to grow by about 4 per cent over the plan period. The policy of stable prices for basic goods (covering about 80 per cent of retail trade), low rents and public service tariffs will be pursued, the extra costs being covered by further increasing state subsidies. The housing programme will be central to social policy: some 600,000 units will be built in total during 1981–1985, about 7 per cent more than in the previous five-year period.

In *management and planning*, significant steps were taken during 1976–1980 to establish large-scale industrial and construction combines. Medium-term and annual plans now directly link the existing 157 combines with the rest of the economy by indicators which fix the contribution of each combine to national resource balances, net material product and the budget. Each combine is responsible for a relatively closed production cycle within its own sub-branch, extending from research and development activity to foreign trade. Their large economic potential and direct access to international markets are expected to increase the responsiveness of industry to supply and demand pressures, allowing more flexible adjustment to market conditions. Action has been, or will be, taken during the current quinquennium to reform industrial prices, notably by aligning them with domestic and international resource availabilities—especially with regard to raw materials and fuels.

Beginning in 1981, some adjustments to prices have already been made in recent years. Higher prices were also introduced for agricultural products, with a view to continuing the process of internal adjustment of the economic mechanism and improving the final position of agricultural enterprise.

### *Hungary*

The keynote of the plan for 1981–1985 is flexibility, thus reflecting the uncertainties regarding the likely courses of economic development at home and abroad. Thus for this reason the individual plan targets are rather less specific than for former years. The plan, published at the end of 1980, summarized development achieved in the previous quinquennium which contributed to an important increase in national wealth. However, changing world and domestic economic conditions, necessitated changes in economic policies, which are reflected in reduced growth rate targets for NMP produced and an even more marked slowdown in allocations for domestic use. In fact, the provisions of the plan as adopted specify, so far as can be ascertained, zero or near zero growth for investment and consumption over the curent plan period 1980–1985.

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[228] "Solving the tasks in foreign trade during 1981–1985 is one of the main questions of the national economy. For that high performance in developing production for exports is necessary." Report of W. Stoph: Directive of the Tenth Party Congress of the SUP to the five-year plan of the German Democratic Republic 1981–1985.

[229] The following deliveries (main headings) from the Soviet Union to the German Democratic Republic in 1981–1985 have been agreed: 95 million tons of oil; 32.5 billion m$^3$ of natural gas; 16 million tons of rolled steel; 650,000 tons of aluminium; 457,000 tons of cellulose; 440,000 tons of cotton.

One of the most important factors influencing growth options for 1981–1985 was, and remains, the balance of trade and payments. In this sense the new five-year plan is characterized by the preponderant role of financial constraints in the short and medium term. The sharp rise in import elasticities relative to NMP was not paralleled by buoyancy on the export side—a development of some importance in an economy where trade contributed a relatively high share of NMP. A potent element in these developments was the adverse development of the terms of trade both with other CPEs and also—until 1980—with the western economies. Prospects for increasing the share of livestock, textiles, steel, medium-quality machinery and some other commodities which have been or are scheduled to become the most dynamic elements in Hungary's exports, were also subject to considerable uncertainty due to world market developments. As a first priority the authorities cut back overall economic growth in order to reduce imports in 1979–1980, which brought about a more than proportional drop in the import requirement in absolute terms.

As a result of these restrictive policies the growth of overall output between 1975 and 1980 was slower than planned. But foreign indebtedness rose by much more than originally foreseen. The 17 per cent rise in NMP produced between 1976 and 1980 contrasts with a much more marked slowdown in NMP distributed—to only 10 per cent over the same period. Nonetheless, by 1980 the economy was still running a 16 billion forint trade deficit.

The plan divides the 1981–1985 period into two parts. During the first sub-period, output growth targets are set markedly lower than the previous five-year average, while the level of domestic demand will apparently be restricted to levels approaching more closely those of NMP produced.

The main objective in the first part of the plan period is to encourage exports and import substitution, which are given priority over fulfilment of domestic output growth targets. This strategy implicitly accepts some loss of growth as a precondition for re-establishing economic equilibrium—a sharp reversal of traditional planning objectives.

Thus, a 14–17 per cent cumulative growth target was set for NMP produced, though attainment of this figure is stated to be dependent on some improvement in world market conditions by the end of the period. On the other hand, the target provided for NMP distributed was described as "considerably lower", though no figure was mentioned. Within NMP distributed, consumption and investment targets show somewhat different trends. There will probably be cuts in absolute investment levels as compared with 1980. But a 7–9 per cent increase in private consumption is planned between 1980 and 1985, and public consumption will also grow, though at lower rates than previously.

No major *structural change* is planned between the main branches of national production so far as can be seen from the limited data available. In any case, the plan's investment programme for 1981–1985, roughly unchanged in volume terms as compared with 1976–1980, restricts possibilities for bringing about such a switch. Within industry the plan continues to stress a number of programmes which have already been accorded priority in past years: notably, the development of the aluminium and petrochemical branches, computer engineering, pharmaceutical, plant protection chemicals, and also electronics.

The five-year plan specified virtually a no-growth target for *investment* for the total period in real terms. The total sum of fixed investment in 1981–1985 is projected at some 1,020–1,040 billion forints at current prices—some 20 per cent higher on average than during 1976–1980. A "no-growth" outcome would result on the assumption of a 4 per cent annual investment goods price rise over 1980–1985. This is somewhat higher than during 1975–1980, but does not seem excessive given the attention now being paid to aligning domestic prices with world market levels. The recent distribution pattern of investment between the material and non-material sphere will be continued. In the non-material sphere, in particular, the level of expenditure of housing is to be maintained. Investment policy stresses the orientation towards intensification, and the reconstruction and re-equipment of existing enterprises rather than the starting of new projects, but gives no details about specific programmes. Indeed, it is clear from the plan as a whole that no new large-scale development is scheduled during the plan period. The general orientation is stated to be development of export capacities and priority treatment of enterprises producing import substitutes. It is emphasized that any investment spending must be in line with the financial capacities of the enterprises concerned.

No indications are given in the plan about the expected *labour supply*. Indeed, since 1978 no plans or projections in this area have been published. The constant labour shortage has meant that the very small rise in total employment since 1970 has been accompanied by some small decline in employment in the material sphere. Hence the plan calls for better utilization of labour. Overall growth will be determined entirely by the rise in labour productivity.

The plan also emphasizes the importance of reducing *material inputs* per unit of output. Hence up-to-date energy conservation and recycling methods should be used. "The degree of processing of industrial and agricultural materials, whether home-produced or imported, should be increased: domestic resources of raw materials should be exploited reasonably." Moreover, "development characterized by lower material and energy consumption per unit of output will enjoy priority".[230]

*Technology policies* in the new five-year plan are also directed to bringing about economies of fuel and other inputs in manufacturing by promoting the efficient use of raw materials and energy, and to improving the quality of output. The plan emphasizes that "innovation and similar initiative will be encouraged and exploited in a more decisive manner than hitherto".[231] While stressing the importance of good management in promoting technical progress, the plan also underlines the cardinal importance of taking into account market conditions when making decisions on technological development expenditure.

A crucial aspect of the plan as a whole is the aim to stabilize a more favourable *export-imports* relationship and hence to obtain room for manœuvre in the direction of faster growth of foreign trade. The traditional trading partners of the CMEA area will play an important role in this process, and the plan mentions that Hungarian trade with other CMEA countries "in the first place will depend on our compliance with obligations undertaken in various agreements on the basis of reciprocity".[232] The plan also seeks to establish direct trading and even production relationships between producer enterprises in Hungary and in CMEA partner countries. Trade with developed market economies is expected to continue in a mutually advantageous way and is seen as an important element in improving economic efficiency—presumably through imports of technology. For trade with developing countries the plan lays down a general objective that "existing economic ties with developing countries must be consolidated in accordance with our economic and political interests".[233]

With regard to the *allocation of resources for domestic use*, the efforts being made to redress trade balance, will, as noted earlier, probably exclude any rise in NMP distributed *relative* to NMP produced throughout 1980–1985. In the first phase of the plan, its absolute level may even decrease but could rise again towards 1985 at rates sufficient to offset the initial drop. This should be borne in mind when assessing the consumption increase of 7–9 per cent targeted between 1980 and 1985; the share of consumption being expected to increase its share of NMP distributed to some 81–83 per cent by 1985. This indicates that a generally similar pattern may be planned for net investment, though cutbacks may be sharper and recovery begin rather later than for consumption; a 17–19 point share in NMP distributed for net fixed capital formation is indicated for 1985—lower than in 1981. Such a pattern would, however, require rather steep increases in both indicators in the final years of the plan and would depend heavily on the attainment of foreign trade objectives scheduled for the early years of the period.

If these targets are realized, per capita real incomes could increase by the 6–7 per cent retained in the plan, headed by a relatively faster growth of social benefits. However, the plan stresses the maintenance of real incomes at no more than the level prevailing at the beginning of the plan period. During the five-year period the transfer payments fund is expected to be modified in order to increase the real value of the lowest paid recipients of incomes from that source. Payment to beneficiaries receiving above-average incomes from this source will remain at the present level. With regard to housing, some 370–390,000 new apartments are to be built out of which 115–120,000 will be financed from the state budget.

In keeping with the pragmatic approach adopted for the presentation of the principal quantified targets of the plan, the main emphasis in the discussion of *planning and management* is upon flexibility in the face of changing conditions: "Economic targets in the plans should be defined in awareness of the fact that changes in the economy are faster and less foreseeable than before."[234] Particular features of management policy are "an alignment of domestic prices to those prevailing on the world market ..., income regulation based on uniform principles, increases in wages and salaries on the basis of actual performance, their dependence on economic results ...".[235]

For prices, the plan implies a substantial evolution of recent policy and the adjustments will intensify competitive pressures on the country's producers in both domestic and foreign markets. The new prices will be set principally on the basis of supply and demand; a parallel system of state price control will, however, be developed to avoid excessive inflationary pressure. According to the plan, state subsidies to enterprises will, at the same time, be eliminated, except in cases where social requirements make low prices necessary. Transitional grants to enterprises to facilitate their adjustment to the new conditions will, however, cease by the end of the plan period. A major change in state financing which will accompany these new arrangements will be the partial elimination of productive enterprises directly sponsored by the state; the state budget will henceforth focus on infrastructural projects. There will be some further redistribution of responsibilities between ministries and enterprises. Henceforth, decisions connected with production and the day-to-day running of factories will be left with enterprises, while ministries will deal less with direct management of production but rather ensure effective market arrangements. Profitability under the plan will now become the decisive factor in credit policy. The plan emphasizes that credits will be granted in the first place for investment projects destined for the following purposes: "profitable ... exports, economical and rational substitution of imports, reduction of energy consumption".[236] Generally, the competitive aspects of the existing credit and finance system will be reinforced.

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[230] Law on the Sixth five-year plan of the National Economy, paragraph 9.

[231] *Ibid*, para. 11.

[232] *Ibid*, para. 40.

[233] *Ibid*, para. 41.

[234] *Ibid*, para. 54.

[235] *Ibid*, para. 56. See also B. Czrikós-Nagy, "New producer's prices", *Népszabadság*, 11 December 1975.

[236] *Ibid*, para. 61.

*Poland*

While work on a five-year plan to 1985 had also begun in Poland in 1979, its assumptions were overtaken by the escalating economic and social crisis of the country in 1980–1981, and the same fate befell an initial three-year recovery plan which was under discussion in the winter of 1980. Medium-term strategy at the moment is determined by a "Government Programme for Overcoming the Crisis and Stabilizing the Economy" adopted by the Sejm in July 1981 for implementation over the next three to four years, at the core of which is a far-reaching reform of the economic management system. However, rather than setting precise targets, this programme provides only the broadest outlines for necessary structural changes. It is therefore not possible to appraise the planned strategy or prospects for Poland in a similar manner as has been done for the other countries of the region.

As early as 1979, the Polish press carried statements by economists that economic developments up to 1985 were already determined by external debt service and repayment obligations, shortages of energy and raw materials and the necessity to eliminate balance of trade and domestic macroeconomic disequilibria. Economic and social disturbances in 1980 and 1981 have resulted in a deterioration of the economy at all levels. Development up to 1985 will hence be subjected to the same constraints as listed above but in a much more acute form.

The main economic trends and events during 1976–1980 have already been analysed in a previous section (section (i): General developments). What follows is a short summary of the situation which the Polish authorities currently have to face in laying down policy orientations for the period up to 1985. This provided a point of departure for assessing these policies, as they are reflected in the main statement on the economy published since the emergency measures introduced in December 1981.

The total (short-, medium- and long-term) foreign debt at the end of 1981 amounted to some $30 billion, of which $25.5 billion was denominated in western currency.[237] On the latter part, interest payments of $3–4 billion and repayments of principal of close to $7 billion are coming due in 1982. This sum compares with total export earnings in trade with developed and developing market economies of $7.5 billion in 1980 and $5.4 billion in 1981.[238]

To illustrate the dimension of the problem, it can be noted that in the absence of a re-scheduling or other new financing, in order to cover imports from the market economies remaining at the 1981 level of $5.4 billion and to meet the repayments and interest obligation of $10 billion, the level of export earnings of western currencies would have to roughly triple in 1982 as compared with 1981, or would have to achieve a volume of about double of that in the last "normal" year (1979).

The demand for Polish coal in the short term is relatively buoyant—particularly in the other countries of the region—due to shortfalls in Polish deliveries in 1981. The same is true for some other products. But the depressed world market in general does not appear to offer much prospect of an export rise of the same magnitude. Moreover, it is unlikely that imports could be held at 1981 levels. One of the major reasons for declining growth performance up to 1980 was the increasing dependence on imports of key industrial raw materials, as well as on investment goods purchased in western countries. The demand for replacement parts for machinery imported during the investment boom in the first half of the 1970s is also probably now substantial. If the obvious first problem in redressing the balance of payment is the re-establishment of past production levels and a shift of resources to exports, then it is equally clear that this cannot be done without increases in imports.

To keep these within acceptable limits, it will, moreover, be essential to restrict consumer imports. Living standards are thus likely to be squeezed—and will need to be squeezed further at home by the diversion of domestic resources from consumption to exports. The extent to which this can be achieved is a matter for debate, given the sensitivity of the issue within the country. First indications for 1981 show that current consumption has fallen by less than the fall in produced NMP; a probable fall in distributed, relative to produced, NMP has been achieved by a very large (−50 per cent) decline in net investment. It is clear that growth prospects cannot be improved even in the fairly short term on this basis.

The first steps in restricting consumption growth have now been taken by the authorities. The prices of food and of a whole range of other goods have been raised, and food rationing was introduced on a partial basis in the autumn of 1981. The need to protect the least well-off members of the population (pensioners and lowest paid workers) has partly offset the impact of the price measures.

Some information on plans for 1982 is available, though it is scarce. The main data available are the provisional three-variant set of projections for the year proposed by the Planning Commission. It should be stressed, however, that although these projections provided a basis for discussion, they were not given the legal status of an official plan. They do, however, provide important indicators of the expected linkages between major growth aggregates. A draft plan for the first quarter of the current year was published in January 1982.

The *pessimistic variant* of the programme projection envisages a coal output of 155 million tons, accompanied by a decline of industrial production by some 11 per cent. It also assumes a positive balance of trade with developed market economies, a fall in NMP produced of some 8 per cent and of income distributed by 5.6 per cent with respect to 1981 (in real terms). A second, *basic variant* is projected on the assumption of coal output amounting to 168 million tons. Industrial output would recover to the 1980 level and trade with market economies would, again, be balanced. This variant incorporates a decrease of NMP produced of 3.4 per cent and NMP distributed by 4.5 per cent. The *optimistic variant* is based on the assumption that coal output will rise to 175 million tons, and also that industrial production would rise by 5 per cent. NMP produced would expand by 2.2 per cent, and distributed NMP would increase by about 1 per cent. It is also assumed that the balance of trade with the market economy countries would achieve a small surplus.

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[237] Report of the Main Statistical Office, *Trybuna Ludu*, 29 January 1982. The remainder of approximately $4.3 billion is denominated in roubles and financed for relatively long periods.

[238] Total exports in the same years amounted to $17.0 and $13.2 billion respectively.

Coal output provided the central linkage in all three variants of the plan described above because of its double significance: as the determinant of the domestic energy supply ceiling and as the key export item and therefore a main determinant of import capacity. All variants assumed that a large part of the maturing debt and some interest payments could be refinanced in 1982 as had happened in 1981, and this assumption ultimately established the flow of imported inputs on which the attainment of production objectives hinged.

Coal output amounted to 163 million tons in 1981, but daily output levels increased significantly after the reintroduction of the 6-day work week in December and slightly exceeded the planned level in January. On this score the optimistic variant therefore does not seem unrealistic. However, the reaction in some western countries to martial law in Poland calls into question the realism of the assumption regarding refinancing of credits, and therefore on the overall import capacity included in the plan balances. Indeed, shortages of imported supplies appear to have become an increasingly binding constraint to industrial capacity utilization in the first weeks of 1982.

Taking into account existing conditions at the beginning of 1982, a fulfilment of the optimistic variant of the plan seems to be at least a possibility, provided that the external conditions improve slightly and the measures contained in the Government Programme for Overcoming the Crisis and Stabilizing the Economy are implemented. The Programme principally deals with measures of economic reform in order to attain the following aims:

To introduce order and disciplined organization and technology in the economy;

To halt the decline in production, the national income, foreign trade turnover, living standards and market supplies;

To achieve a tangible improvement in raw material and component supplies;

To activate mechanisms aimed at restoring development trends;

To lessen considerably inflationary pressures, to restore the integrity of the currency, and in due course to discontinue food rationing;

To considerably restrain the increment in foreign indebtedness.

In 1982, investment expenditure is to be marginally lower than in 1981. The plan indicates a slight increase in investment in the "food complex" (agricultural and food processing), energy and housing, at the expense of other industrial sectors.

All variants of the 1982 plan envisage an imbalance between disposable income and consumer supplies depending on the level of prices. Price rise on foodstuffs, heating and electricity were introduced at the beginning of February; the expected planned deficit of 108 billion zlotys corresponds with the optimistic variant of the provisional plan for 1982.

The implementation of the reform should promote an economic policy aimed at creating conditions for increasing the effectiveness of the processes of management. The reform's basic task will be implemented by "socializing planning" —that is, by creating conditions for the effective operation of independent, self-managing enterprises and by using economic policy instruments to ensure that the activity of enterprises is co-ordinated with the public interest.

All of these tasks are based on the main following conditions:

The independent, self-governing and self-financing enterprises will be the basic economic unit. The national economy will operate according to the principle of central planning together with the application of the market mechanism;

The Central Planning Commission will be a Government staff body and should take no operational decisions;

The banking system will be separated from the Finance Ministry;

The Party will fulfil the functions of strategic-conceptual guidance and control in the economic sphere. Party bodies will not interfere in everyday economic operations;

Trade unions should protect the rights and also the current and long-term interests of the working people in the sphere of working and wage conditions and also of their social and cultural conditions;

The principle of self-financing of an enterprise should be introduced. This means that it will cover its own costs from its own monetary income or bank credits. The retail price of basic consumer necessities will continue to be approved and maintained by a government commission. Other prices, and particularly wholesale prices, will be in principle established by producers on the basis of production costs and technical and exploitational qualities: but it appears that some element of price supervision, even at wholesale level, will be maintained in the immediate future;

Self-management within the enterprise will consist in the participation by the workers' collective in managing the enterprise; this will include decision-making by the workers' collective on questions which are important for the enterprise;

The Government's role will be to create favourable conditions for an increase in production and services and also to ensure an appropriate formation of profits.

"The guidelines for economic reform" supplemented with implementing regulations describe in more detail some principles of activity of enterprises. The process of implementation of economic reform began on 1 January 1982. The Law passed by the Council of Ministers on 30 November 1981 lays down the detailed terms of activity for enterprises in 1982.

In the middle of 1981 new regulations were implemented in socialized agriculture. Self-financing, accompanied by a radical curtailment of subsidies created new conditions in the economic climate of agricultural production. Small manufacturing enterprises, mainly co-operative ones, have also been working under the new conditions since the middle of 1981. A wholesale price reform covering materials, raw materials and intermediate goods was introduced from 1 January 1982.

### *Romania*

A starting point of the five-year plan of Romania for 1981–1985 is an evaluation that "during the 1976–1980 period in Romania profound changes took place which transformed it into an industrial-agrarian country, in which industry is recording an all-round expansion and agriculture is in the overall process of modernization".[239] The strategy of the current plan therefore is centred upon the attainment of growth based on the "intensive" harnessing of productive forces, especially science and technology, and improvements in the quality of output.

This strategy is strongly influenced by the diminution of the growth resources on which past patterns of extensive growth depended. During 1981–1985, the active population of the country is expected to grow by some 77,000 workers—considerably less than in the previous five years. With regard to investment resources, the share of net (and gross) capital formation in national income has for many years been among the highest in the world, and a great deal higher than in any other European CMEA country (the gross investment ratio averaged more than 35 per cent of NMP during 1970–1980) and possibilities for further growth are limited. Constraints upon the supply of material inputs have also tightened. The growth of output in the extractive industries has slowed down in recent years—and in some cases, notably oil, absolute levels have even fallen. Possibilities for making up these shortfalls from imports are limited however, in view of the likelihood of a further deterioration in the terms of trade and the growing claims upon export earnings of the servicing debts run up in the past, and the plan provides for "the restriction to a minimum of foreign credits during the 1981–1985 quinquennium". Hence, the dynamism of overall growth can only be sustained by ensuring maximum efficiency of the investment process on the one hand and increased efficiency of fixed asset use on the other. The plan stresses the importance of the latter in relation to productive capacity built up on the basis of past, and especially foreign credits.

The growth targets have been set on the assumption that these improvements will in fact take place. *Growth of NMP* is set at an annual average rate of 7.1 per cent between 1980 and 1985 (6.1 per cent for gross social product). Material costs per unit of output are hence expected to decline by just under 1 per cent annually. The rate of overall production growth is thus essentially about the same as that eventually achieved between 1975 and 1980; long-term programmes foresee that, if these growth assumptions are fulfilled, the level of economic development will approach those of the advanced industrialized countries by the end of the decade.

The main growth emphasis during the current plan period is placed on *industry,* for which a rate of advance of some 7.6 per cent in terms of gross output is scheduled—well above the 6.1 per cent average for the economy as a whole (gross social product). Growth is expected to be fastest in the chemical and oil processing branch, and above average in the metallurgical and food industries. The production of certain kinds of advanced machinery and equipment (electronically controlled machine tools, precision mechanism equipment, optical hydraulics and pneumatic equipment, as well as engineering as a whole) should grow by 18–20 per cent. In the fuel and energy branches, coal production growth is set very high, output rising to one and a half times (85.6 million tons) the 1980 level by the end of the period. This would make possible substantial changes in the fuel basis of energy production—notably a 27 per cent reduction in the share of energy derived from oil. The chemicals sector, including crude oil processing, will concentrate on various synthetics, plastics and resins, and also on chemical fertilizers. Much of the feedstock will, however, consist of imported crude oil, increasing quantities of which have been refined and exported or used as feedstock for the domestic industry in recent years.

A specific feature of Romanian five-year plans has been the separation of the five-year plan for *agriculture and the food industry* from the overall national plan of economic and social development. The overall national five-year plan includes only the main indicators for these two items. According to the "Plan for the Development of Agriculture and Food Industry in the 1981–1985 Period", the average annual growth rate of gross agricultural production in 1981–1985 compared with 1976–1980 is to be as high as 4.5–5.0 per cent. Production of all main arable products is however forecast to reach much higher rates of growth. This is based on an average annual rate of growth of 7.1 per cent for grain, while potatoes, sugar beet production, sunflowers, soyabeans, beans, flax fibres and vegetables are scheduled at rates varying between 12–13 per cent annually. All these rates are much higher than for the former quinquennium. Clearly, their successful attainment would depend on nearly ideal weather conditions in all years of the five-year plan. Despite increases in irrigated land, higher chemical fertilizer applications and investments totalling 179.3 billion lei, the rates quoted are highly ambitious. The figures for animal production are more modest, implying an average growth of the number of total bovine cattle by some 2.3 per cent annually, pigs by 5.5 per cent, sheep and goats by 5.8 per cent and poultry total by 3.8 per cent. However, it is difficult to reconcile these movements with the scheduled average growth rate of 9.9 per cent for meat. Nevertheless the high growth rates called for, and resources committed to, the development of agriculture confirm that its crucial role in overall performance during the 1981–1985 period is well recognized.[240]

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[239] *Directions du développement industriel de la Roumanie 1981–1985, Commerce Extérieur Roumain,* Bucarest, 1981, No. 3. p. 2.

High growth rates are also scheduled for *transport and communications*, as well as for *construction* during the five-year period.

*Investments* amounting to 1,200 billion lei, roughly 30 per cent of national income, are set for 1981–1985. Although the investment ratio is set noticeably lower than in former quinquennia, the value figure still implies an average growth rate of some 5.2 per cent over the previous five years. The gross investment ratio, which reached about 37 per cent in the period 1971–1975 and even 41 per cent in the period 1976–1980, is scheduled to fall slightly during 1981–1985, but it is still a great deal higher than in the other CMEA countries. The bulk of gross capital formation (53.5 per cent of the total) will be invested in industry, followed by agriculture and forestry (12.9 per cent), transport and communications (9.4 per cent) and housing (8.3 per cent). More than 40 per cent of investment funds destined for the productive sphere will be used in the primary sector. Emphasis is laid on the necessity to complete projects already begun, by re-equipping existing industry, and developing high-growth branches, especially electronics and sophisticated processing industries.

The total *labour force*, as seen, will remain virtually constrained during the period under consideration. The number of persons employed in industry, however, due mainly to out-migration from agriculture, will rise by an annual average of 1.5 per cent—though this is less than 60 per cent of the increase recorded in the former quinquennium. Hence, for industrial output plans to be attained, a 7 per cent annual rise in labour productivity (calculated on a net production basis) will be needed. In other words, some 90 per cent of the increment in output will depend on labour productivity rises. In agriculture, the contribution of productivity will be even greater; the farm labour force will fall, and the plans for agriculture and the food industry provide for a very much higher annual average increase of labour productivity than that for net agricultural output itself (6.7 per cent as compared with 4.5–5.0 per cent respectively). To achieve this, during the five-year period 1.5 million workers and almost 300,000 technicians and foremen (together totalling more than one sixth of the total labour force) will receive further training, while 580,000 graduates from technical, vocational and high schools are expected to join the industry.

The proportion of the value of the country's industrial output based on indigenous research is to be increased from 44 per cent in 1980 to over 90 per cent by 1985. Funds for scientific and technological research are expected to be 50 per cent higher during 1981–1985 than in the former quinquennium.

Special attention in the plan has been paid to increasing the *efficiency of material inputs*. Indicators of net and gross sectoral production aggregates indicate that the approach to economizing material inputs over the whole economy noted earlier will be reflected over the whole range of economic activity. In the case of industry, the average annual rate of growth of net production of 8.8 per cent is to be based on an average rate of growth of marketed (gross) production of only 7.6 per cent—an implied reduction in material costs per unit of output of 1.2 per cent annually. For agriculture a similar but rather bigger contribution is planned: an annual average rate of growth of net agricultural production of 6.8 per cent is set 2.3 to 2.8 per cent higher than that retained for gross agricultural production (4.5–5.0 per cent). To make such developments possible, important reductions in costs per unit of output are envisaged—by 8.2 per cent for national level industry, 5.0 per cent for building investment, by a full 12.5 per cent for state agricultural units, 11.0 per cent for mechanization stations in agriculture and 5.0 per cent for transport and general use (over the whole period or per year). To facilitate this task, Romania has introduced a comprehensive set of consumption norms for materials and energy per unit of output. At the same time it has been stressed that although they are significantly lower than actual current levels, they are still higher than consumption per unit of output in other countries. Requirements to expand the recycling of all kinds of waste materials have also been introduced. According to the plan, the volume of recycled materials in 1981–1985 should be 60 per cent higher than in the former quinquennium, and total some 126 billion lei in value. It is currently expected that, during the plan period, up to 50 per cent of the materials needed by industry will have to be obtained by recycling.

Several crucial elements in the plan characterize the *foreign trade* and *international economic co-operation policy* of Romania. Foreign trade is expected to rise initially by an annual average growth rate of 11.9 per cent—two thirds more rapidly than NMP. Exports are targeted to rise faster than imports—by an annual average growth rate of 15.7 per cent. Imports are to be strictly limited in line with export earnings and other foreign currency operations, with the aim of achieving a positive balance of trade. Within the total volume of exports, the share of manufactured products is planned to increase significantly; by 1985 the share of machinery, other manufactures and chemical products is expected to be as high as 60 per cent. As far as the regional orientation of Romanian trade is concerned, an important change in the structure as compared with the last 20 years has been foreseen. The text table on page 155 indicates that the share of socialist countries in the foreign trade turnover of Romania, which has continuously declined during the last four quinquennia, to a low point of some 40 per cent in 1980,[241] will grow during the present plan period to nearly half the total. The share of developing countries, which has grown continuously since 1960, is expected to increase further, though at a slower pace. The share of developed market countries, which increased up to the mid-1970's, will, under these assumptions, decline to roughly one quarter of total turnover.

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[240] *The share of agriculture in total NMP was almost 15 per cent in 1980.*

[241] *Development of the CMEA-Member Countries in 1971–1980* (in Russian), CMEA Secretariat, Moscow, 1981, p. 141.

**Foreign trade of Romania by groups of countries**
(*Percentage shares*)

| *Groups of countries* | *1960* | *1965* | *1970* | *Average 1976–1980* | *1981–1985* |
|---|---|---|---|---|---|
| Socialist countries | 73.0 | 65.0 | 56.0 | 45.0 | 48.0 |
| Developing countries | 4.7 | 6.0 | 8.2 | 22.0 | 25.0 |
| Developed market economies | 22.3 | 29.0 | 35.8 | 33 | 27.0 |

*Source: Commerce extérieur Roumain*, No. 3/1981, p. 4.

The changes envisaged represent a deliberate and major long-term trade policy re-orientation towards fuller co-operation with the socialist countries, in particular with CMEA countries, in machinery and other industrial and agricultural goods equipment. Romanian participants at the last CMEA countries meeting in Sofia expressed definite dissatisfaction with recent trends in trade between Romania and other member countries, particularly as far as energy and raw materials are concerned. The same view has been expressed in several public statements by the Romanian leaders. At the same time, it is intended to increase the absolute level of trade with the developed market countries.

As mentioned already, the five-year plan provides for an important change in the allocation pattern of *resources for domestic use.* After a continuous increase from 28.8 per cent of NMP in 1966–1970 to 34.1 per cent in 1971–1975, and an impressively high 36.3 per cent in 1976–1980, the share of the accumulation fund over the current plan period should fall to less than 30.0 per cent. The enlarged share of consumption should provide room for an average annual increase in real wages and salaries of 2.9 (4.5 per cent in nominal terms), while the peasants' income from work done in agricultural production in co-operatives and in private farming should grow in real terms by an average annual growth rate of 3.4 per cent. These movements in consumption, together with a planned total investment growth rate of 5.2 per cent annually, are significantly slower than the 7.1 per cent NMP plan target. This indicates a reduction of foreign debt compared with 1980, when it was estimated at some $9.4 billion.[242] Within domestic consumption, standards of living will benefit from a planned annual 12 per cent average rate of increase for service expenditures, and also by a large programme of housing construction. Some 900,000 state-built apartments are planned throughout the period (compared with 755,000 in 1976–1980) and about 100,000 dwellings are expected to be built by private individuals. Funds for financing social and cultural activities will move similarly, rising by an annual average rate of 3.9 per cent. A 46-hour work week is to be introduced during 1982/83 and it is planned to complete the transition to a 44-hour work week in all sectors of the country by the end of the five-year plan.

Changes in *management and planning* are also envisaged. Although not all of them are explained in detail, official statements indicate three main directions of change. First, internal price levels during the present five-year period are to be more closely linked to those prevailing on the world market—an evolution seen as necessary both to eliminate wasteful use of costly imported inputs and also to encourage the more than proportionate planned increase in production for export relative to imports and NMP growth. A new commercial exchange rate of 15 lei per US dollar was accordingly introduced on 1 January 1981. Although a limited number of special provisions still remain, the implicit intention is to attain a unified exchange rate by the end of the plan period. Second, changes have been announced to expand the influence of market criteria in planning, state price formation and in economic activity at enterprise level. However, detailed information on the form these new measures might take is at present lacking. Finally, the role of state subsidies is to be reduced, and the role of enterprise decision-making will be expanded. In particular, all expenses will in future have to be covered from the proceeds of marketed output, while the tightening up of financial constraints will be accompanied by a broadening of the responsibilities of enterprises for overall management ("self-management" and "self-administration"). However, no far-reaching changes are expected in the short term; not only does centrally-planned economic management in Romania have deep roots, but the five-year plan itself calls for an increasing role of central organs both in working out the plan and in promoting smooth economic development—stressing tighter economic discipline, and also the responsibility of these organs for plan fulfilment.

### *Soviet Union*

On the basis of the introductory texts of the eleventh five-year plan of the Soviet Union, the leadership considers that the Soviet economy, basing itself on the production level achieved in 1976–1980, poised for a breakthrough into a qualitatively different, science and technology based development path during the plan period 1981–1985. As stated in the plan document: "The productive forces of Soviet society have attained a qualitatively new level. The scientific and technical revolution is developing in scope and depth, changing the very appearance of many lines of production and whole industries."[243]

Nevertheless during the critical discussion of achievements during 1976–1980, it was strongly emphasized that despite the huge natural endowment of the country, development to the end of this decade will continue to be influenced by a number of complex problems which will place certain constraints on performance. In the first instance, it has been stated that an unfavourable demographic situation will result in somewhat slower overall growth than was achieved in the previous quinquennium. Moreover, employment in the non-material sphere during the 1970s rose more than twice as fast as in the material sphere. Similar relative movements are expected to persist and it has recently been estimated that the rate of increase of employment in the latter during 1981–1985, less than 1 per cent, will be only half the rate achieved in 1976–1980. An additional manpower constraint arises from the territorial distribution of the expected increase. In the European part of the Soviet Union, virtually no increase in the working age population will take place, while in the South Asian Republics expected employment surpluses will necessitate additional investments to provide new jobs. Demographic problems will bear particularly heavily on the extractive industries, since the bulk of new capacities is to be developed in the regions east of the Urals, which involve very large primary outlays on construction, and infrastructure projects (notably transport). Environment protection expenditures are another element limiting the expansion of capacities in traditional areas, while also involving extra expenditures in newly constructed capacity in all regions.

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[242] *Economic Bulletin for Europe*, vol. 33 no. 4, p. 554.

[243] L. I. Brezhnev: Report of the Central Committee of the CPSU to the 26th Congress of the CPSU: *Documents and Resolutions*, Novosti Press Agency, Publishing House, Moscow, 1981, p. 42.

The strategy of Soviet economies development over the current period, although continuing the orientation laid down in the tenth five-year plan, includes some new emphases. The basic requirement is again to bring about essential improvements in the efficiency of production as compared with the previous five-year plan.[244] This will involve accelerating the rates of labour productivity growth and profitability, compliance with stricter norms of material resource consumption in the putting into operation of productive capacities; an acceleration in the growth rates of industrial and agricultural production; reversal of the falling trends in the relative increments of production of the most important aggregates, which appeared during the tenth five-year plan; an increase in the share of consumption in national income while providing for priority development of consumer durables; and faster growth of national income than of investment.

The five-year plan for 1981–1985 stipulates an average annual rate of *growth of distributed national income* of some 3.4 per cent. *Industrial production* is foreseen as growing by 4.7 per cent annually, and agricultural output should reach a level, over the whole of 1981–1985, some 13 per cent higher than in 1976–1980. *Transport* is expected to increase by 3–6 per cent annually. The target rate for NMP is somewhat below the 1976–1980 outcome, but would provide for an absolute increase in NMP at constant prices of some 78.5 billion roubles between 1980 and 1985 as compared with 74.5 recorded in 1976–1980. Similarly, industrial output and average annual agricultural output are expected to register absolute increases of 160 and 16.4 billion roubles respectively, compared with increases between 1975 and 1980 of 122 and 10.2 billion roubles. In line with the general orientation towards more balanced economic development during 1981–1985, important *structural changes* in the Soviet economy are scheduled. The leading sector of the economy will remain *industry*, with a growth rate some 40 per cent higher than for NMP. Within the sector, the growth rate of consumer goods output (group B) at an average of 4.8 annually is slightly higher than the 4.6 per cent rate retained for producer goods (group A). This change is evidence of the growing importance attributed to more balanced economic development, and to the greater stress now being laid on the satisfaction of consumer demand.

Special attention is also to be paid to the fuel and energy branches. The highest rate of growth in terms of commodities is laid down for the production of gas (from 435 billion in 1980 to 630 billion $m^3$ in 1985—a 7.7 per cent average annual rate of growth). Electricity production will rise at half that rate—by 3.8 per cent to some 1,555 billion kWh. Lower rates of growth are planned for coal production (1.6 per cent annually to 775 million tons) and for crude oil production—by an average annual rate of 1.1 per cent to 630 million tons—some 10 million tons lower than the tenth five-year plan target for 1980. Structural change within the fuel/energy sectors clearly relates in fact to a deliberate shift towards less costly energy allocations both as far as investment in the extractive branches and also energy input costs are concerned. However, in the case of oil, it is likely that the low growth rate targets represent also an important reappraisal of the physical and climatic constraints on the exploitation of resources in distant and climatically difficult areas.

Output of the engineering and metalworking, chemical and oil processing branches are also scheduled to grow at higher rates than in industry as a whole. The engineering industry's output, which is an essential component of plans to raise the average productivity of new technology delivered to the economy by 30–50 per cent over the period compared with current levels, is to grow by an average 7 per cent annually. The output volume of the chemical and oil processing branch is forecast to increase by an average rate of growth of 5.7 per cent annually (plastics, however, will rise by 11.0 per cent). Many branches of light industry will also grow faster than industry as a whole.

A very high target is envisaged for *gross agricultural output*. As noted earlier, average annual output of this sector in 1981–1985 is planned to be 13 per cent higher than in the previous quinquennium. This compares with a rise of about 9 per cent in 1976–1980 over 1971–1975. Grain output is expected to reach an average annual level of 239 million tons, some 16.5 per cent above the previous five-year average. Most of this increment would be available to underpin a 23 per cent and 10.1 per cent increase in meat and milk production, respectively. Some of these figures, in particular that for grain output, are very high and have already been the subject of some discussion outside the Soviet Union. As in previous plans, however the task has very high priority in the current five-year programme and is backed by the allocation of an impressive volume of productive resources. With regard to current inputs, the volume of fertilizers to be delivered to agriculture will rise to some 115 million tons (40 per cent more than in 1980). A substantial effort to modernize the machinery park will be made, and the area of land improved by drainage and irrigation is planned to increase by about 5 per cent over the 1980 level. These and other capital projects will be backed by a slightly faster increase in investment than the target for the economy as a whole. The share of agriculture and related supplier and processing industries—the "agro-industrial complex"—in total investment will reach over 27 per cent for the period as a whole.

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[244] "The central objective of the eleventh five-year plan is to ensure the further growth of well-being of the Soviet people through the stable and consistent development of the economy, acceleration of scientific and technical progress and of the changeover of the economy to intensive development, more rational use of the country's productive potential, the utmost economy of all types of resources, and improvement in the quality of work." *Op. cit.*, p. 162.

The third sector to which special attention was paid in the current five-year plan is *transport and communications.* Improvement of the whole transport network is now viewed as an indispensable precondition for bringing about the efficiency increase called for in the plans for other sectors. For agriculture in particular, a large part of the high losses registered each year originate from shortcomings in transport of goods produced. During the plan period the rail network will be expanded by 2.5 per cent (3,600 kilometers) while improvements (second tracks, electrification etc.) will be introduced on about 16 per cent of the track existing in 1980. In addition, the development of industry east of the Urals and in the far north can only be achieved if goods can be transported between these areas and the more heavily populated areas of the country. These improvements, and capital expenditures in other transportation sub-sectors are intended to raise the volume of traffic by 19.4 per cent for sea transport, 33 per cent for automobile, 15.5 per cent for passenger transport and 28 per cent in air traffic.

Important changes over the five-year plan are envisaged in the *investment sector.* For the first time in recent Soviet planning practice, the rate of growth of national income (18 per cent for the whole period) is scheduled to outstrip that of investments (10.4 per cent). In the presentation of the final version of the plan, in which the total sum of 730 billion roubles originally envisaged by the draft guidelines was reduced to 700 billion, it has been stated that: "This requires an essentially new approach to investment allocation and organization of construction. The main objective should be to raise the efficiency of investments, to better co-ordinate capital construction and material and technical resources and the potential of construction organizations."[245] To make these requirements clear, the plan stipulates a higher growth rate for the commissioning of new capacities as compared with the growth rate of investments, and a reduction of unfinished construction to acceptable limits in relation to investment by the end of the quinquennium. The structure of investment is also to change by reducing the share of construction and installation work in the total volume of investments from 54 per cent in the former plan period to 51 per cent in the current five years. At the same time investment for reconstruction and technical re-equipment will rise more than twice as fast in 1981–1985 as total investment—21.2 against 10.4 per cent in 1981–1985 taken as a whole over the total in 1971–1975; the share of these expenditures in investments will rise from 29.2 per cent during 1976–1980 to 32.5 per cent in 1985. As far as the sector and branch-structure of investment is concerned, the main objective of the plan is to eliminate bottlenecks and shortcomings of the present structure and to provide for an increasing degree of balanced growth of the whole economy. As stated already, such an attitude actually means faster growth and a larger share in investment by the industrial sector (in particular fuel and energy, machine-building and chemicals, as well as in the ferrous and non-ferrous metallurgy branches), for which an average annual rate of growth of 4.2 per cent is envisaged. Other priority areas are the agro-industrial complex, transport and communications. Essential improvements are expected in the construction sector, which has been found responsible for many shortcomings in the investment process itself.

The plan lays special stress on improvements in *labour productivity*—not only because it is a crucial component of intensification and the improvement of the effectiveness of the national economy, but also, given the demographic situation, the country can only achieve growth targets by a big acceleration in the growth of output per man. The demographic factors imply that the bulk of existing enterprises will have to reach the planned growth rates without any significant increase in personnel—in particular in the European part of the country. Thus as much as 90 per cent of the NMP growth targeted for 1985 will need to be provided for by increased labour productivity. This would have an effect equivalent to some 17 million workers. Labour productivity increases are scheduled therefore to provide 86 per cent of the increment in the volume of output of railway transport, 90 per cent in industry and the whole of the increment in agriculture and construction output. To reach such levels, labour productivity targets involve average annual rates of growth during 1981–1985 as high as 4.2 per cent for industry, 2.8 per cent in construction and 2.0 per cent in railway transport.

Not since the 1966–1970 period has the actual contribution of labour productivity to the NMP increase been as large (87 per cent) as planned for 1981–1985 (90 per cent). Hence the figures quoted imply the full implementation of all the various measures laid down to achieve these targets—particularly since this contribution did decline quite sharply in the 1971–1976 and the 1976–1980 periods (to 80 and 75 respectively). The achievement of the plan targets for labour productivity will thus present a challenge to all sectors and branches of Soviet economy and is a necessary condition for the attainment of plan targets.

Even so, rising labour productivity is not in itself sufficient to ensure the attainment of targets—at least, in terms of value added. It must be accompanied by decreasing *inputs of energy and raw materials* per unit of output, and the plan sets explicit objectives for these. According to the final version of the plan, economies on the scale shown in the following text table are called for:

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[245] N. K. Baibakov, in the presentation of the five-year plan for 1981–1985, *Ekonomicheskaya Gazeta*, 1981, No. 48, p. 6.

|  | 1976–1980 | Plan 1981–1985 |
|---|---|---|
| Fuel (thousand tons, standard units) | 120 | 200 |
| Rolled steel (million tons) | .. | 105 |
| In engineering and metallurgy | .. | 8.5 |
| In construction | .. | 2.1 |
| Recycled wood (million m³) | .. | 50.0+ |
| Cement (million tons) | .. | 7.0 |
| Total savings in energy and raw materials (billion roubles) | 11.4 | higher than 1976–1980 |

A comprehensive set of savings objectives in volume terms will be called for from all sectors of the economy, according to the Decree on the Intensification of Work of Economies and Rational Use of Raw Material, Fuel and Energy and Other Material Resources.

To back up both the efforts to ensure high rates of growth of labour productivity and to bring about more efficient use of energy and raw materials in the Soviet Union, the five-year plan presents special *policies promoting scientific and technical progress.* During the period more than 2,700 automated systems of managing technological processes and 7,300 computing complexes on the basis of microprocessors and mini-computers are to be put into operation. The volume of automatic manipulators should be eight times higher than in the former five-year period. The increased technical level of machine-tools and their incorporation into automated lines is expected to raise their productivity by 50–60 per cent. Widespread use of energy- and raw materials-saving technologies and equipment is envisaged, as well as those designed to reduce labour and investment costs—especially in the metal processing industries (spectrographic, laser, plasma and other techniques). Through the technical equipment and re-equipment of many branches with new, high productive technologies, *capital intensity* in industry is expected to rise by 34 per cent, in agriculture by 45 per cent and in transport and communications exterprises by 25 per cent in 1985 as compared with 1980. Technical progress should also be helped by a range of targets connected with some 170 scientific-technical programmes, including 41 complex target-oriented programmes, laid down by the Main Planning Committee, the Main Committee on Science and Technology, and by the USSR Academy of Sciences. With regard to output quality, by the end of July 1981 some 85,000 products in the Soviet Union were distinguished by a quality sign, three times more than in 1975. Out of total industrial output on the same data, 16 per cent was classed as belonging to the highest quality category, compared with 5.2 per cent in 1975, while in the machine building industry the corresponding share was 38 per cent. The five-year plan does not give any over-all statement about the share of high quality products in 1985, but envisages only a higher proportion in some industrial branches by that date.

Very few figures are given for *foreign economic relations,* in either the guidelines or the final version of the five-year plan. No figures were given for either export or import growth rates individually. Overall turnover, as specified in the presentation of the final version of the plan,[246] will grow faster, at 4.1 per cent, than the 3.4 per cent national income target (annual average rates). If given in value terms, however, this rate would indicate a deceleration of foreign trade growth, since in the 1976–1980 period it rose by some 13.2 per cent annually, or more than three and one fifth times higher than projected in the current period.[247] As far as the regional distribution of foreign trade is concerned, according to its presentation the plan envisages an increase in the share of the socialist countries in Soviet trade from some 54 to 58 per cent—an important shift as compared with the last decade during which the share fell from 65.2 per cent in 1970, to 56.3 per cent in 1975 and 53.7 in 1980.[248] No figures for the share of developing and developed market economies are given. The long-term character of trade relations and in some cases long-term co-operation programmes were quoted as a basis for providing for stability and steadiness with relations for the first group, while for the other once again was repeated the readiness of the Soviet Union to develop further trade and economic relations with all developed market economies on the basis of equal rights and mutual advantage.

No precise information was given on the commodity structure of foreign trade. However, general comments on trade strategy for the current period show a clear intention to align Soviet exports more closely with the output structure of the country—at least in trade with CMEA countries. The five-year plan hence calls for continuing progress in specilization and co-operation with other CMEA countries, and especially with regard to "the implementation of the long-term, target oriented co-operation programme aimed at resolving major problems of the power, fuel, raw materials and engineering industries, and also in agriculture, transport and consumer goods production, in addition to bilateral long-term programmes for specialization and co-operation in production". Taking into account the large share of energy and fuels in Soviet exports to the other CMEA countries, as well as the particular importance of further increases in the production of Siberian gas, necessitates massive investments for production and transport, it was explicitly stated at the Twenty-sixth Congress of the CPSU that: "We expect other interested socialist countries to participate in this project and, for that matter, in developing the nuclear power industry. This would be of substantial importance to our economy".

With regard to living standards, the plan provides for a rising share of consumption in the *allocation of*

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[246] Report of the President of the State Planning Committee (Gosplan), N. Baibakov, to the Supreme Soviet (Parliament) of the USSR. *Ekonomicheskaya Gazeta,* 1981, No. 48, p. 16.

[247] However, if the targets refer to volumes, the 1976–1980 outcome is only one and two fifths times higher than current period projections.

[248] Figures on the share of CMEA countries in the Soviet Union turnover are not given, but the same tendency as for socialist countries was recorded during the same period (55.6 per cent in 1970, 51.8 per cent in 1975 and 48.6 per cent in 1980).

*resources for domestic use.* This continues a trend which was strongly marked throughout the 1970s when its share in national income rose from 70.5 per cent in 1970 to 73.4 in 1975, and to 75.3 in 1980. By 1980, the share is expected to reach 78.0 per cent. The rising consumption fund leaves room to increase average monthly earnings from 168.9 roubles in 1980 to 193 roubles in 1986, an average growth rate of 2.7 per cent per year. Earnings for kolkhoz workers will rise by more than average—by some 3.7 per cent annually over the five years, and higher increments are also likely for those working in Ural regions, Northern and East Kazakhstan, North of Korov and Vologod oblast, the Far East and Eastern Siberia. Retail trade turnover in the state and co-operative networks should rise by some 23 per cent in constant prices while provision of services, in volume, will rise by 7.6 per cent annually. An important element in raising living standards will be the provision of 530 million m$^2$ of housing space during the five years, most of which will be allocated to collective farmers and workers in the Far East and Siberia. Already higher than the 3.4 annual plan growth rate for national income, the social consumption fund is expected to rise faster—than private consumption—a 4.2 per cent average annual rate up to 1985. Within the social consumption fund, the plan envisages improvements in social secuity services for some 4.5 million families with children and 14 million retired workers, and higher education and health expenditure.

As in previous plans, general statements concerning the need to improve the economic *management system* during the plan period were made. However, few specific changes were announced, and experience from the past suggests that no substantial changes are foreseen over the next few years. The guidelines were however more precise than in previous five-year plans with regard to the end results required, and it was specifically pointed out that forms of management should follow changes in the economic reality. Nevertheless, experience since the Decree on Improvement of Planning and Strengthening the Influence of the Economic Mechanism on the Rise in Efficiency of Production and the Quality of Work was approved (July 1979) is evidence of the difficulties encountered in changing rules and practices which have been in force over a long period. The general tone of the plan suggested a certain dissatisfaction with both the present state of economic management and the scale on which the provisions of the 1979 Decree had been implemented in practice. Further changes in economic management cannot therefore be ruled out during the current quinquennium. They may however be limited to tightening the provisions of the July 1979 Decree and ensuring stricter compliance with them, rather taking the form of new departures.

While no big adjustments to the management system appear to be envisaged, the direction of possible change looks much clearer, and some adjustments appear almost as inevitable. With regard to organization, some rationalization of organization bodies and perhaps mergers aimed at overcoming departmental shortcomings can be expected. The status and areas of competence of these new forms are not strictly defined: a flexible and pragmatic approach has appeared in recent press discussion on the subject, which proposes variously a territorial basis for some of the new organs (as in the case of some parts of Siberia) and also inter-branch or even inter-sector approaches (as in the case of energy). Second, as far as the overall indicators of economic activity are concerned, there is an apparent tendency to speed up the shift from the former gross output indicators, whether in volume or value terms, to net indicators expressed in monetary terms, such as net output (normative net production—*normativnaya chistaya produktsiya*). The use of these new indicators seems to suggest an increasing role for demand and prices as determinants of the economic position of enterprises. However, changes of this nature could if pursued further necessitate a change of approach to many fundamental aspects of the existing management system, in particular the rationale underlying current price formation practices. While price changes have actually been proposed and even implemented, they have not been based on any essential change in the criteria used for setting them. The third direction of possible change is directly connected with requirements for more efficient use of energy, fuels and raw materials, which were the subject of three special decrees in 1981.[249] Finally, changes might take place in respect of the material incentives systems in order to remove some shortcomings arising from the consequence of insufficient wage differentials.

### (iii) Essential characteristics of development strategies 1981–1985

The analysis of major outcomes of economic developments in 1976–1980 on one hand, and of the main elements of the five-year plans on a country-by-country basis, on the other hand, give grounds for identifying the main characteristics of the development strategies adopted by the east European countries and Soviet Union for the period 1981–1985.

One of the most important components of five-year plan development strategies for the current period concerns the projections for the *growth of net material product.* The analysis of developments in 1976–1980 illustrated that different countries followed rather different strategies, some of them striving to maintain the pace of economic growth recorded in the previous quinquennium, while others accepted a somewhat lower rate of advance. Although for the region as a whole, growth rates achieved during the 1976–1980 period could be judged successful by international standards, these did differ to a greater or lesser extent from planned objectives. The ratio of actual to planned NMP growth rates ranged between 89 per cent in the Soviet Union, some 82 per cent and 79 per cent in the German Democratic Republic and Bulgaria

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[249] Also relevant in this respect are decrees providing for higher remuneration of workers in deficit sectors, such as coal, and in regions with particularly onerous working conditions.

**Selected indicators of five-year plans**
(*Average annual percentage change*)

| | *Bulgaria* | *Czecho-slovakia* | *German Dem. Rep.* | *Hungary* | *Poland* | *Romania* | *Soviet Union* | *Byelorussian SSR* | *Ukrainian SSR* |
|---|---|---|---|---|---|---|---|---|---|
| NMP produced | 3.7 | 2.0–2.6 | 5.1 | 2.6–3.2 | 0.9 | 7.1 | 3.4[a] | 4.3 | 3.6 |
| Industry (Gross product) | 5.1 | 2.7–3.4 | 5.1 | 3.5–4.0 | . . | 7.6 | 4.7 | 5.1 | 4.2 |
| Agriculture (GNP terms) | 3.4 | 1.8–2.2 | 1.1 | 2.3–2.8 | . . | 45–50 | 2.5 | 2.1 | 2.9 |
| Employment in material sphere | −0.9 | . . | 0.6 | −0.6 | . . | 0.1 | 0.2 | . . | . . |
| Labour productivity | 4.6 | . . | 4.5 | 3.2 | . . | 7.0 | 3.2 | . . | . . |
| Gross capital formation | 0.9 | 1.0* | −0.3 | 0.9* | . . | 4.4 | 1.6 | . . | . . |
| Incremental capital: output ratio | 8.6 | 12.8 | 5.0 | 14.3 | . . | 5.4 | 8.6 | . . | . . |
| Foreign trade turnover | 7.0 | 6.2–7.0 | 6.3 | 4.6–5.4 | . . | . . | 4.1 | . . | . . |
| Real incomes per capita | 2.8 | . . | 3.9–4.2 | 1.1–1.4 | . . | 3.6 | 3.1 | 3.1 | 3.2 |
| Retail trade turnover | 3.9 | . . | 3.7–4.1 | . . | . . | 4.8 | 4.2 | 3.1 | 3.9 |

*Sources:* As for table 3.1.1.

[a] Net material product distributed.

respectively, 76 per cent in Czechoslovakia, 69 per cent in Romania, 58 per cent in Hungary and only 17 per cent in Poland. For eastern Europe as a whole, the corresponding ratio was 59.1 per cent (75.8 per cent excluding Poland). Taking these figures into account, the conclusion might be drawn that the east European countries on the whole, and some in particular, insufficiently took into account the effect of constraints on growth already present. The same cannot be said, however, for the Soviet Union.

The evidence for this conclusion can be found in table 3.1.1, which compares successive annual actual and plan figures for NMP growth in 1976–1980. Taking 1976 as a base, plan figures in east European countries in all the following years were higher than figures actually recorded in preceding years in 19 out of 24 cases. In 28 out of 30 cases (including the year 1976) actual NMP annual growth rates were lower than those envisaged by annual plans. Quite the opposite is the case for the Soviet Union: in three out of four years (beginning with 1977) the annual plan figures of that country were noticeably or even considerably (in 1977) lower than those actually attained in preceding years, while actual annual growth rates recorded during the five-year period (including 1976) were in three out of five years higher than those envisaged by annual plans.

Judging by targets retained for the 1981–1985 period, it could be argued that most countries in eastern Europe, as well as in the Soviet Union, have now taken into account the decelerating trends of NMP growth rate which have become apparent in recent years. The east European countries taken together, indeed, plan an average annual growth rate lower than that actually recorded in 1976–1980 (3.8 per cent as compared with 3.9 per cent), as also does the Soviet Union (3.4 per cent as compared with 4.2 per cent). For the whole region, the average annual aggregate growth rate planned for 1981–1985 (3.5 per cent) is thus some five sixths (85.3 per cent) of the rate recorded in the former five-year period (4.1 per cent). If all the factors discussed earlier are taken into account, this strategy seems justified—the more so if the figures mentioned in section (i), dealing with factor inputs, are taken into account. Besides ever scarcer and increasingly costly fuels, energy and raw materials, these figures also show that in four out of seven countries (German Democratic Republic, Romania, the Soviet Union and probably also in Czechoslovakia, for which no figure was available) there might be virtually no increase in employment in the material sphere, while in the three remaining ones (Bulgaria, Hungary and almost certainly in Poland for which no figure is available) in fact slight decreases in employment in the material sphere are expected. Similar conclusions can be drawn if the figures for planned annual average growth rates of gross capital formation are taken into account: in this field negative growth rates are expected in Czechoslovakia and the German Democratic Republic, virtually no growth in Bulgaria and Hungary and only slight growth in the Soviet Union. The only country which envisages any considerable increase in the rate of growth of gross investment is Romania.

An implicit intention in most of the countries, illustrated both in year-by-year breakdowns of five-year targets where available, and in the texts and presentations of the five-year plans, is to confront directly the various constraints on development in the beginning years of the five-year period, to check or reverse them during the middle and final years of the period, and gradually to provide room for stable or slightly accelerated development by the beginning of the next five-year period or towards the end of the 1980s. In any case, it is quite evident that no country of the region considers growth as an end in itself, whatever the cost in terms of resources, as the only evidence of healthy progress. Indeed all of them explicitly emphasize the qualitative rather than the quantitative aspects of the development process. Strategies laid down in the five-year plans, however, are not identical in all countries of the region.

The *German Democratic Republic* is the only country which not only intends to maintain growth rates at the levels attained in the last decade, but also envisages an acceleration by roughly one quarter of the average annual rate recorded in 1976–1980 (5.1 per cent as compared with 4.1 per cent). Taking into account the stability in growth performance demonstrated during the whole decade—the most stable of the whole region—the target is clearly not unattainable. The possibility that actual development may prove less buoyant than foreseen, however, should not be excluded—bearing in mind not only the fact that during the previous quinquennium actual growth reached the planned level (5.1 per cent) in only one year (1977—5.2 per cent), but also because the availability of all factor inputs (manpower, fuel, energy and raw material, investments) is reported to be rather limited in 1981–1985. The actual development of that country, therefore, depends essentially on its success in achieving the degree of intensification and efficiency stipulated by the five-year plan, particularly with regard to successful implementation of fuel, energy and raw material saving programmes.

The second strategy is followed by *Romania*: this country does not plan any acceleration of growth as compared with the former period, but rather envisages to maintain performance at the same level (7.1 as compared with 7.2 per cent)—once again the highest growth objective in the region. Since both planned and actual average NMP growth rates recorded by Romania during the two last quinquennia were also the highest in the region, and the planned average annual gross investment rate in this country is relatively high (4.4 per cent), the objective is not in itself unreachable. However, a very accentuated and continuous decelerating trend over the 1976–1980 period (growth of 10.5, 9.0, 7.4, 6.2 and 2.9 per cent in successive years) suggests that strategy for the current five-year period is based on a rather optimistic scenario, which may not in fact materialize. The possibility of a downward shift in the pace of development cannot therefore be excluded—as already happened in the previous five-year period when the actual average annual NMP growth rate achieved was 7.2 per cent, as against the 10.0–11.0 per cent originally planned.

All other countries of the region have planned average annual growth rates lower than in the previous five-year period. The smallest deceleration is envisaged by *Hungary*; the upper limit (3.2 per cent) of the planned average annual growth rate range is, in fact, the same as was achieved in 1976–1980, while growth at the lower limit (2.6 per cent) of the range is less than one fifth lower than in the previous period. Actual growth could however be either higher or lower than planned. On one hand, it seems that Hungary has been the most successful country in the region in adjusting to changing international conditions of economic development. On the other hand, the decelerating tendency trend of NMP annual growth rates in the last four years of the 1970s is very clear (3.0 per cent, 8.0 per cent, 4.2 per cent, 1.9 per cent in each of the years 1976–1979 and an absolute decline in the NMP level in 1980 of 0.8 per cent). The closing provisions of the Hungarian five-year plan for 1981–1985, therefore, explicitly provide for both possibilities.[250]

The 3.4 per cent target for net material product growth retained by the *Soviet Union* as compared with the 4.2 per cent rate achieved in 1976–1980 confirms the cautious approach to economic development apparent in the previous quinquennium. The reasons underlying this planned deceleration are not simple. As pointed out already, the Soviet Union has taken into account the increasing pressure of growth constraints more seriously than any other country of the region, though the plan for 1981–1985 does not consider them as insurmountable. In fact, since the average annual growth rate of the second half of the 1970s in 1976–1980 (4.2 per cent) was some three quarters (73.7 per cent) of the corresponding figure for 1971–1975 (5.7 per cent), the maintenance of growth at the 3.4 per cent level would be evidence that the decelerating trend had been arrested—since the planned rate amounts to more than four fifths (81 per cent) of the average annual rate (4.2 per cent) recorded over 1976–1980. Stabilization followed even by an acceleration in the pace of the development in the second half of the 1980s, could result from the longer term strategy of the country.

The sharpest decline in the pace of development within the region is envisaged in the five-year plans of *Bulgaria* and *Czechoslovakia*—average annual growth rates of some 3.7 per cent for the former and 2.0–2.6 per cent for the latter, amounting to only 60.7 per cent and 55.6–72.2 of growth performance in 1976–1980 (6.1 per cent and 3.6 per cent respectively). In the five-year development guidelines, both countries proposed considerably higher average annual growth rates (4.6–5.4 per cent in Bulgaria and 2.7–3.0 per cent in Czechoslovakia) than retained in the final version of the plan. Precise quantified explanations of these downward revisions have not so far been reported, but they may originate in the more limited prospects for imported inputs of both countries—particularly fuel. If these limitations are overcome, Bulgaria and Czechoslovakia could probably revert to a higher growth path, more in line with past performance.

As for *Poland*, no reliable evaluation is possible so far. Since the country itself in Autumn 1981 estimated that some five to six years would be necessary to attain the highest pre-crisis level of NMP,[251] an average annual NMP growth rate of some 0.9 per cent has been estimated by the ECE secretariat as both realistic and accessible.

Strategy with regard to the pace of economic development in aggregate, as exemplified by NMP targets—although in itself a function of broader socio-economic development strategies—explains components of their preferences in the 1981–1985 five-year plans. Therefore, they will be exposed in a very condensed form, in particular since most of them were shown in detail in countries' individual five-year plan presentations.

The process of further quantitative growth of NMP in both the east European countries and in the Soviet Union is expected to be followed by qualitative *structural changes* (table 3.1.3.). Almost all countries of the region, firstly, envisaged faster development of *industry*: although NMP figures for this sector were not given, a comparison of gross output targets for industry with NMP growth rates for the economies as a whole suggests that industry will grow substantially faster in Bulgaria, Czechoslovakia, Hungary and the Soviet Union (respective growth coefficients for industry relative to NMP growth are 1.38, 1.35–1.31, 1.35–1.25 and 1.38). It will also grow somewhat faster relative to NMP in Romania (coefficient of 1.07); while in the German Democratic Republic it should grow at the same rate as NMP (5.1 per cent). The industrialization process in all countries is not expected to affect industrial branches only, but also all other sectors—in particular agriculture and construction in which the share of manual, low capital intensive work is judged to be too large and responsible for many shortcomings, bottlenecks and inefficiencies—more so in some countries than in others.

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[250] "Should either the foreign economic relations or the efficiency of production show a more favourable trend than what has been predicted or planned, respectively, the surplus of resources thus becoming available shall be allocated partly for the improvement of the balance of foreign economy, partly for the further modernization of production, as well as for added support to the raising of the living conditions. On the other hand, should the conditions of foreign economy show a less favourable trend than what has been predicted, or the efficiency of production be less favourable than what has been planned, the plan objectives shall be modified accordingly." – "Law of the sixth Five-Year Plan of the National Economy (1981–1985)" (in English) *Economic Bulletin of the National Bank of Hungary*, Budapest, vol. XXIV No. 2, p. 91.

[251] *Polish Economic Survey*, Warsaw, 1981, No. 19–20, p. 3.

An essential feature of development strategy is the accentuated role of *agriculture*. This evaluation is based not only on the explicit designation of foodstuffs as the central economical and political problem of the whole quinquennium (Soviet Union), but also on the plan figures: six out of seven countries (including Poland, which envisages that agricultural recovery will take place over a slower period than in industry) have planned agricultural growth rates much higher than in the previous period. Hence, the growth coefficient in agriculture rises in four countries to 0.95–1.0. The importance of this acceleration can be appreciated by comparing the growth coefficients for agriculture planned for 1981–1985 with those recorded in 1976–1980: in Bulgaria, 0.92 as against 0.34; in Czechoslovakia, 0.90–0.85 as against 0.57; in Hungary, 0.88 as against 0.78; in Romania, 0.63–0.70 as against 0.58; and in the Soviet Union, 0.94 as against 0.40. The only country in which the growth coefficient of agriculture is envisaged to fall is the German Democratic Republic (from 0.29 to 0.22).

Figures for *construction* were reported for only three countries (the German Democratic Republic, Hungary and Romania). Judging by these and by some qualitative statements, construction will grow more slowly than NMP, except in Romania, in which the growth coefficient for construction is expected to rise to some 1.24. No figures were reported for the *tertiary sector*. Judging by partial figures reported, particularly high increases can be expected in the provision of services, and, as is confirmed by figures given for employment, in the non-material sphere as a whole.

The third essential component of development strategies is the *overall process of intensification and increasing the efficiency of the development process* (see below and in sections 3.2, 3.3 and 3.4 on agriculture, industry and investment respectively). It appears that a radical reversal of trends in this area is envisaged: indeed, all five-year plans call not only for quantitative improvements but lay particular importance on the qualitative re-definition of the very concept of the intensive development path. In other words, intensification is not seen any more as merely an increase in the share of labour productivity in the growth of net material product, but rather as a development option which implies, (1) the growth of labour productivity (2) the rational use of productive potential, including increases in capital productivity through optimal exploitation of existing capacities, (3) the rational use of all material inputs with a view to decreasing material input per unit of output, and (4) improvements in the quality of output.[252] In most cases the requirements are backed by quantified indicators to be attained during the five-year period. Although some of them are not as high as one would expect from the plan objectives—implied targets for incremental capital—output ratios, for instance, are in fact higher than during 1976–1980 for all countries of the region but the German Democratic Republic, though no figure for Poland is available (see table 3.4.1)[253]—the long-term choice of intensive economic development has now been reinforced.

With regard to *foreign trade and international co-operation*, all countries of the region envisage higher growth rates of foreign trade turnover plan of NMP, following the long-term strategy of increasing participation in the international division of labour. All countries, moreover, explicitly or implicitly, set targets for reducing deficits in foreign trade or to restrain imports in line with potential export growth, and to reduce progressively the degree of foreign indebtedness. Foreign trade structures in all countries are oriented towards a closer correspondance with NMP structures, in order to correct the existing significant discrepancies between them in some countries, especially in the Soviet Union. As far as the regional orientation of trade is concerned, all countries envisage increasing quantitative and qualitative improvements in foreign trade and co-operation with other socialist countries—in particular with other CMEA countries. Co-operation with developing countries is also expected to increase and diversify. Trade and co-operation with developed market economy countries is summed up by more or less similar declarations of "readiness for co-operation on the basis of equal rights and mutual advantage". This rather restrained and formal terminology in fact reflects the present overall situation of the countries of the region, and can be explained by at least three important factors. First, most east European countries and the Soviet Union, as centrally planned economies, are mainly supply managed and as a result are unwilling to subject their foreign economic relations to the oscillations of international or other national markets. Therefore, almost of all of them prefer longer term, mutually linked, compensation or other similar types of international co-operation rather than conventional import-export transactions. The considerably increased indebtedness of almost all countries in the region, combined with unexpectedly high interest rates during the last two years, has also imposed a rather cautious approach.

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[252] The concept of the intensive path of economic development was interpreted in this way in *Ekonomicheskaya Gazeta*, Moscow, 1981, No. 39. p. 3.

[253] In fact, over the short-term ICORs can be a function of NMP growth rather than its determinant—in particular when NMP growth rates are restricted by factors other than investment; this is very largely the case for almost all east European countries and the Soviet Union in the 1981–1985 period.

In the case of labour productivity, the average annual growth rates for 1981–1985 in the countries which reported them (Bulgaria and Romania) are expected to be lower than in 1976–1980. Historically lower growth rates of labour productivity are not incompatible with the intensification of economic development, as witnessed by the fact that the ratios of labour productivity growth rates to NMP growth rates in 1981–1985 are expected to be higher respectively than in 1976–1980 or roughly the same (1.24 as compared with 1.00 in Bulgaria and 1.10–1.23 as compared with 1.16 in Hungary).

The fifth essential feature of development strategies adopted in the region deals with the *allocation of resources for domestic use.* Three important elements are worth mentioning here. The share of *net capital formation* in almost all countries is expected to slow down. In the five-year plans and their presentation, this tendency is explained in terms of the implementation of socio-economic principles in those countries, in particular the principle of promoting the "ever-increasing satisfaction of ever-rising material, cultural and other needs of the population". This is considered as a basic economic law. Moreover, the share of net capital formation in net material product of the east European countries and the Soviet Union, although declining in all of them but Romania in 1976–1980, has, by international standards, been relatively high in most of them as is also the case for gross fixed capital formation (table 3.4.1). The slowdown therefore seems quite normal and necessary. In addition, the much more stringent requirements for the improvement of labour productivity, efficiency of material inputs use, capital productivity and output quality, cannot enlist wholehearted support by the population unless definite increases in all-round welfare is certain. The share of *total consumption* in most countries of the region is, therefore, planned to rise for these reasons. Within consumption, and in line with long-term strategies, *personal consumption* is planned to grow more slowly than *social consumption*, and accordingly, the growth rates of *real incomes per capita* will outstrip the growth of average wages and salaries (table 3.5.1). It is important, however, to point out that both real incomes per capita and average real wages and salaries in all countries of the region are envisaged to grow by lower rates than net material product, a fact that, together with the planned fall in the share of net capital formation in NMP, might be connected with an implicit intention to reduce foreign indebtedness and, possibly, to enlarge stocks. In any case, it suggests that NMP distributed will grow more slowly than NMP produced in most countries of the region.

The last but not the least essential issue of development strategies in eastern Europe and the Soviet Union is *management and planning.* In this respect, all the five-year plans, and even more so the "guideline" documents and presentations of the plans by senior political leaders, call for substantial improvements at all levels of planning and also of the day-to-day management of the economy. In many documents and speeches, changes already introduced or imminent were described as "substantial", "basic", "radical", etc. A more precise analysis of the provisions themselves, however, suggests that these descriptions have a rather different meaning in different countries. Several common components nevertheless seem to be more or less present for all or most countries.

As far as *institutional structure is concerned,* following changes which began to be introduced several years earlier, countries are striving to optimize management both below and above enterprise level. Within enterprises, therefore, different lower level, but smaller and more compact organizational units—in most cases called "brigades"—have gradually been taking responsibility for plans target fulfilment. Labour remuneration has increasingly depended on performance. Above the enterprise level many forms of association were created, including the amalgamation of several similar enterprises—a good deal of which may cover a substantial part of a whole branch; large "circles" of vertically integrated enterprises belonging to different branches; or joint management of all enterprises situated in particular locations—a solution aimed at overcoming the shortcomings due to breakdowns at the level of interbranch transactions, etc. The second essential common feature deals with the introduction on an increasing scale of the *cost-accounting principle (khozraschet)* at all organizational levels; in some countries this principle will be—or already has been—applied to whole ministries and, in some others, to institutions in the non-material sphere (hospitals, schools, etc.). The third common component concerns changes in the nature of *indicators of economic performance*, closely connected with the reinforced role of cost-accounting principles. In most countries there is a further trend to reduce the number of obligatory indicators of enterprise performance. This is accompanied by a pronounced shift from both physical and value gross indicators to net value (nominal) indicators, such as net normative output, income and profit. Fourthly, in the east European countries, more or less pronounced changes have been introduced in order to align internal *price formation* with world prices—in particular for energy and other material inputs. For wholesale prices—and to a larger or smaller degree for retail prices—reforms have taken place in all east European countries and the Soviet Union. Finally, in all countries the general requirements for both a higher degree of *planning discipline* (i.e. conformity with plan targets) and *increasing entrepreneurship and initiative* have been proclaimed, calling for "a rebuilding of the style of economic activity and of the economic mentality, of planning methods and the management system".[254] How far these changes will result in the creation of new planning and management systems, and how far they indicate no more than adjustments to existing systems, is so far not clear—and no assessment will be possible until actual practice over the next few years can be assessed. Moreover, developments in the east European countries and the Soviet Union are not simultaneous or in the same direction. Nonetheless, it should be noted that the Communiqué of the thirty-fifth session of the CMEA, held in Sofia in July 1981, includes a point in which heads of delegations of member countries announced the

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[254] L. I. Brezhnev, *Trud*, Moscow, 17 November 1981, p. 1.

"further perfectioning of methods and forms of co-operation, including reinforcerment of exchange of experience in planning and management, taking into consideration possible convergence of the structures of national economic mechanisms".[255]

To conclude, it can be stated that the essential characteristics of the development strategies of the east European countries and the Soviet Union for 1981–1985 remained at a fundamental level the same as those defined in the previous five-year period. They are strongly influenced by global socio-economic development programmes, they are in most cases oriented towards long-term growth and structure patterns of development and they are even more markedly oriented towards balanced economic growth. The four remaining years of the current five-year period will show whether the changes introduced, and also those envisaged, in management and planning, are sufficient for the successful implementation of the five-year plan strategies, or whether more fundamental changes in line with the chosen path of an intensive economic development are required.

### (iv) Economic developments in 1981

Annual economic performance in eastern Europe and the Soviet Union can in principle be evaluated on the basis of three criteria—trends in the previous period, five-year plan targets and annual plan objectives. Though the same is true for 1981, the relative weights of these criteria for this year are not the same; since annual plans in all countries of the region were approved before the five-year plans, the importance of the annual plan's targets is smaller than for other years, because the strategies of five-year developments were not yet clear in detail. This is the more so because differences between draft and final versions of the five-year plans were considerable in some areas. Apart from Hungary, the five-year plans were not passed before mid-1981 (Romania) or the end of that year (all other countries of the region). Hence economic developments in eastern Europe and the Soviet Union during 1981 need to be assessed primarily in the light of developments in former years, and less according to either the annual or five-year objectives.

Although the *growth rates of net material product* were quite satisfactory by international standards in most countries of the area during 1976–1980, the most important feature of the region's economic development was the decelerating tendency of overall economic growth. Policies incorporated in the annual plans for 1981 reflected this trend rather differently. The annual NMP growth targets for Bulgaria and Czechoslovakia (5.1 and 2.8 per cent respectively), envisaged a further slight deceleration as compared with 1980 (5.7 and 2.9 per cent respectively). All other east European countries, however, envisaged some acceleration in 1981 which was noticeable in the case of the German Democratic Republic (from 4.2 to 5.0 per cent), considerable in the case of Hungary (from decline of −0.8 to growth of 2.0–2.5 per cent) and substantial in Romania (from 2.9 per cent to 7.0 per cent). In Poland it was expected that the decline in NMP would slow down, although another drop was anticipated (3.7 per cent, after 5.4 per cent in 1980).[256] Since the relative weighting of the two first-named countries in the NMP of eastern Europe as a whole is only slightly more than a quarter (about 26.6 per cent), some acceleration of economic growth in eastern Europe was clearly foreseen for the year. This was quite a substantial one if Poland is taken into account (an acceleration from 1.1 to 2.8 per cent) and still noticeable even if Poland is excluded (from 3.2 to 5.0 per cent). The Soviet Union, on the other hand, as in the case of Bulgaria and Czechoslovakia, envisaged a slight deceleration in the rate of expansion (from 3.5 to 3.4 per cent). The Byelorussian SSR and Ukrainian SSR, contrary to the nationwide trend, envisaged an acceleration of economic growth—small in the former case (from 3.6 to 3.9 per cent) but substantial in the latter (from 1.0 to 3.8 per cent).

Economic performance during 1981 displayed rather different patterns considered at individual country level and judged mainly on the basis of annual plan targets. Within it several major tendencies may be distinguished. In the framework of eastern Europe, three countries more or less succeeded in accomplishing their planned growth objectives—the German Democratic Republic fully attained its target of 5.0 per cent while Bulgaria and Hungary almost did so (with actual rates of 1.8 as compared with planned 2.0–2.5 per cent, and 4.0–5.0 as compared with 5.1 per cent, respectively). The three other countries recorded growth rates substantially lower than planned—Romania (2.1 as against 7.0 per cent), Czechoslovakia (0.2 as against 2.8 per cent) and Poland (a decline of −13.0 as against −3.7 per cent). Since the weight of the latter three in NMP terms is higher than the weight of the former three, aggregate NMP growth rate of east European countries in 1981 was substantially below plan with a decline of some 1.3 per cent as compared with the 5 per cent target rate. This statement remains true if Poland is excluded, but in this case the 2.8 per cent growth rate actually recorded for eastern Europe is less noticeably lower than the planned objective (3.8 per cent). In the Soviet Union, in contrast to eastern Europe as a whole, the growth outcome (3.2 per cent) was only slightly below plan (3.4 per cent), giving a ratio of actual to planned growth performance of some 94 per cent. In the Ukrainian SSR, performance was comparable to that of eastern Europe if Poland is excluded: an annual rate of 3.0 per cent compared with 3.8 per cent planned. The best performance in the Soviet Union, and indeed in the region as a whole, however, was recorded in the Byelorussian SSR, in which the actual NMP growth rate (5.0 per cent) was more than a quarter higher than planned (3.9 per cent).

However, these conclusions, drawn on the basis of comparisons between planned and actually recorded

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[255] According to the Russian text of the Communiqué, *Ekonomicheskaya Gazeta*, Moscow 1981, No. 28, p. 14.

[256] According to the statement by T. Grabski, *Trybuna Ludu*, 15 January 1981, p. 3.

NMP growth rates, have only limited value, particularly since the planned annual figures were not themselves based on five-year plan projections. The preceding review of the actual as compared to the planned NMP growth rates in the region confirms that only the Soviet Union, Bulgaria and Czechoslovakia took fully into account the decelerating tendency of development; the other countries possibly continued to treat it as a more or less temporary, short-term phenomenon. Thus the most important regional performance criterion during 1981 should, in any event, be the historical record—i.e. comparisons between actual development in individual consecutive years and also over longer-term periods.

Judged over the short time sequences, performance in 1981 was characterized by decreasing rates of NMP growth in four out of the six eastern European countries (Bulgaria, Czechoslovakia, Poland and Romania). The growth rates recorded in these countries (4–5, 0.2, −13.0 and 2.1 per cent respectively) are not only slower than recorded in the previous year (5.7, 2.9, −6.0 and 2.9 per cent respectively) but also continue the progressive deceleration of NMP growth rates which have persisted for six years already in Poland and Romania, for five years in Czechoslovakia and for three years in Bulgaria. The 1.8 per cent growth rate recorded in 1981 by Hungary, however, not only outstripped the performance recorded in the previous year (−0.8 per cent), but possibly succeeded in reversing the decelerating tendency recorded in the three preceding years (1978–1980). Finally, with an annual growth rate as high as 5 per cent, the German Democratic Republic not only improved on growth performance in the previous year but also registered a fourth consecutive annual acceleration which began after 1978. Since the combined weight of the first four countries is rather higher than of other ones, the decelerating trend in NMP growth rates in eastern Europe analysed at the beginning of this chapter (section 3.1 (i)) thus, in fact, persisted: in 1981, eastern Europe as a whole recorded a decline in its growth rate of 1.3 percentage points, while in 1980 it recorded an increase of 1.1 percentage points. This statement remains true even if Poland is left out of account: the growth rate recorded in eastern Europe excluding Poland in 1981, at 2.8 per cent (instead of −1.3 per cent), is still lower than the corresponding rate recorded in the previous year (3.2 per cent). Hence the growth rates of NMP in eastern Europe are decreasing persistently, both including and excluding Poland, and to a greater extent in the second case than in the first.

As far as the Soviet Union is concerned, the figures for the last four years might suggest that the lowest point of the longer term decelerating trend was reached with the decline to only 2.2 per cent NMP growth in 1979, since subsequent performance improved to 3.5 per cent in 1980 and to slightly lower, 3.2 per cent, in 1981. If agricultural output had not remained below the planned level for an unusually long period of three successive years, Soviet NMP growth rates in 1981 would have been even higher than the planned 3.5 per cent. The fact that, even after this experience, the Soviet Union has set its 1982 growth target at no more than 3.0 per cent, however, is an evidence that the stabilization of the growth path and better performance in intensifying the economic process, rather than increasing growth rates at any price, is the primary policy objective.

The general tendencies observed at the level of national income can be better understood at the level of output of the main sectors. As already indicated above, one of the main reasons for further decreases, or insufficient increases, in NMP growth rates in the region is the exceptionally unfavourable agricultural year throughout almost the whole of the region. Indeed, for crop production climatic conditions were more or less normal only in two countries—Bulgaria and Poland, which recorded *agricultural growth rates* as high as 4.0 and 4.1 per cent. Even these two countries, however, fulfilled their agriculture growth targets by some 80 per cent only. In all other countries performance was much more disappointing. Here too, three different situations can be discerned. Some countries recorded a definite growth of agricultural output as compared with 1980, but at rates much lower than envisaged by the annual plan. This was the case for the Byelorussian SSR, in which agricultural output grew by some 9.8 per cent as compared with the planned 18.9 per cent—a not unrealistic target, since in both 1980 and 1979 agriculture in this republic recorded declining levels of production of as high as −10.4 and −5.4 per cent respectively. In the second group of countries, agricultural output practically stagnated—as in Hungary, where zero growth was recorded and in the German Democratic Republic (where output picked up by only 0.2 per cent as compared with a planned 0.8 per cent). To the same group might be added the Ukrainian SSR, with an actual growth rate (1.7 per cent) of only some tenth of the plan target (16.9 per cent)—even though the target rate was not unrealistic, for the same reasons as in the case of the Byelorussian SSR. Czechoslovakia, the Soviet Union as a whole and Romania can be included in a last group of countries—those in which agriculture recorded absolute contractions of as much as 3.4, 2.0 and 0.9 per cent respectively. These results were, moreover, worse than is immediately apparent, since in Czechoslovakia and Romania declining growth rates have now been recorded in three out of the six last years; in the Soviet Union the declining growth rates recorded in all three of the last successive years is exceptional whether judged in terms of probability or by historical standards.[257] Hence, poor agricultural output did play a significant role in decreasing NMP growth rates throughout the region in recent years: as a matter of fact in the three last years, out of the 21 observations for all seven countries, increases were registered in only ten cases (including 0.2 in the German Democratic Republic in 1981), while zero growth was registered once (Hungary in 1981) and absolute declines were recorded in all of the ten remaining cases.

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[257] According to a direct communication to the ECE secretariat there have only been six cases of declining Russian/Soviet harvests in three consecutive years excluding the 1979–1981 period since records began.

Declining or insufficiently high NMP growth rate, however, cannot be explained by agricultural performance only, nor could poor agricultural output be explained exclusively by unfavourable climatic conditions. In several countries it has been repeatedly pointed out that a good deal of the shortfall in agricultural production is due to the quite evident shortcomings in agricultural policies, ranging from a break-down in long-term structural patterns; the choice of inappropriate agro-technical options; the development of pronounced imbalances between agriculture and branches supplying agricultural raw materials, equipment and technology innovations as well as branches processing agricultural produce, and finally, defective management of agriculture itself and of the agro-industrial complex as a whole. Unsatisfactory agricultural output, therefore, even if a clear cause of declining or slowly increasing NMP growth in particular years, is not itself a cause, but rather a reflection of many other factors within and outside agriculture.

Justification for the latter argument can be found in two other sets of facts, relating to the shares of agriculture in net material product of the region and to the *industrial growth rates* of these countries in 1981. Indeed, as shown already in section (i) above, the share of agriculture in NMP produced in 1980 was roughly one sixth only in Bulgaria, around 15 per cent in Hungary, Poland, Romania and the Soviet Union and below one twelfth in the German Democratic Republic and Czechoslovakia. The size of shortfalls in agricultural output, whether in absolute terms or in relation to plan targets, therefore, cannot wholly explain movements in net material product. Hence production shortfalls or unsatisfactory rates of growth must have been recorded in other sectors, too. This is actually the case with regard to industry: out of seven countries only in two (the German Democratic Republic and Bulgaria) were actual industrial growth rates (5.1 and 5.6 per cent respectively) slightly higher or as high as planned (5.0 and 5.6 per cent respectively), while in the Byelorussian SSR the actual rate (4.5 per cent) was noticeably higher than that planned (4.1 per cent). The ratio of actual to planned gross industrial growth rates in all other countries varied from some 86 per cent in the Ukrainian SSR, through 83 per cent for the Soviet Union as a whole, 74 per cent in Czechoslovakia and 70 per cent in Hungary to only 49 per cent in Romania. An absolute decline in gross industrial output, moreover, was registered in Poland (as much as 12.6 per cent). All in all, actual industrial growth rates in 1981 were not only lower than planned in most countries but also, in four out of seven cases (five out of nine if Byelorussian SSR and Ukrainian SSR are taken into account) actual growth was lower than was actually recorded in 1980. The aggregate industrial output of eastern Europe in 1981, therefore, fell by 1 per cent, as compared with an increase of 3 per cent in 1980, while for eastern Europe and the Soviet Union taken together—thanks to the high weighting of the Soviet Union in the total industrial production of the region—the decline was only relative, i.e. from a growth rate of 3.4 per cent in 1980 to slightly more than three fifths of that rate in 1981 (2.1 per cent). If Poland is left out of account, the picture becomes more favourable, but the deceleration of industrial growth rates—which has been continuous for eastern Europe since 1976 and for the region as a whole since 1977—still persists (decelerations from 4.3 to 3.6 per cent for eastern Europe, and from 3.7 to 3.4 per cent for the region as a whole, respectively).

The declining growth rates in the region as a whole for both agricultural and industrial gross output coincide with the same trend in *construction*: out of four reporting countries, only the German Democratic Republic reported growth in this sector. Three others reported an absolute decline, which was small in Czechoslovakia (1.4 per cent),[258] more noticeable in Hungary (3.5 per cent) and substantial in Poland (20 per cent). Three other countries so far have not reported figures for construction performance in 1981 as compared with 1980.

All figures mentioned, both on a net material product or main sectoral gross output basis, indicate that growth-inhibiting factors exercising a downward influence on growth rates in the 1976–1980 period continued to affect economic performance in the region in 1981.

In almost all countries of the region *labour supplies* continued to decrease, and in the material sphere, even to decline in absolute terms. In fact, an increase in material sphere employment of above 1 per cent could have taken place only in Romania, in which total employment increased by 1.3 per cent. The Soviet Union reported a rise in employment of 0.7 per cent. This is likely to be roughly the same as in Bulgaria, though some decline in employment in the material sphere cannot be excluded. All other countries of the region recorded increases in employment in the material sphere smaller than 0.5 per cent in 1981. Indeed, for Czechoslovakia the corresponding figure can be estimated at only 0.4 per cent while roughly the same, or an even smaller increase, can be expected for the German Democratic Republic. The corresponding rise in Poland was 0.3 per cent, but this reflected the demographic situation rather than efficient job creation, industrial employment having declined by as much as 0.3 per cent in 1981. Taking into account the overall absolute decline in the number of employed in 1979 (some 1.0 per cent) and 1980 (some 0.8 per cent), labour supplies in Poland have acted as a limiting factor, although not as a decisive one. The situation is even more constrained in Hungary, where a decline in employment in the material sphere of as much as 0.2 per cent was reported in 1979, followed by an 0.8 per cent reduction in 1980, due to unfavourable demographic developments registered in the country. In 1981, the decrease accelerated to some 2.0 per cent. In both countries shortages of labour supplies were accentuated by the introduction of a five-day week on a large scale. The effects of this shift, however, were rather different: while in Hungary advance preparation prevented any substantial downward pressure on production and even resulted in a definite increase in labour productivity, in Poland the

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[258] In fact, for Czechoslovakia a decline of 2.0 per cent was reported for state enterprises only, while the decline by 1.4 per cent is an estimate for the total construction.

**Changes in social labour productivity**
(*Average annual and annual percentage change*)[a]

| Country | 1971–1975 | Plan 1976–1980 | 1976–1980 | Plan 1981–1985 | 1981 |
|---|---|---|---|---|---|
| Bulgaria | 7.4 | 7.7* | 6.1 | 4.6 | 3.4 |
| Czechoslovakia | 5.4 | 4.5* | 3.3 | . . | −0.2 |
| German Democratic Republic | 5.2 | 4.4 | 3.5 | 4.5* | 4.5* |
| Hungary | 6.2 | 5.4–5.7 | 6.1 | 3.2* | 3.9 |
| Poland | 8.1 | 5.9–6.1 | 1.7 | . . | −13.3 |
| Romania | 11.0 | 9.4–10.4* | 8.5 | 7.0 | 0.6 |
| Soviet Union | 4.1 | 3.5* | 3.2 | 3.2 | 2.5 |

*Sources:* As for table 3.1.1.

[a] Net material product per employee in material sphere.

introduction of the five-day week took place mainly under pressure of social disturbances in the country and mostly without the introduction of measures to compensate reduced working hours by increased labour productivity. Many branches, in particular coal production, therefore suffered after the five-day week was introduced, and a part of the badly needed production had to be compensated by Saturday working.

In a situation of decreasing growth rates, or even absolute declines, of employment in the material sphere, all countries of eastern Europe and the Soviet Union paid special attention to *labour productivity*. Indeed, in most of them, NMP growth recorded in 1981 mostly resulted from labour productivity increase (table 3.1.1 and text table above). The most pronounced labour productivity growth rate, from that point of view, was recorded in *Hungary*; the output growth rate of 1.8 per cent was achieved with an absolute decline of 2 per cent in employment—implying an increase of some 3.9 per cent in labour productivity. A very similar development occurred in the *German Democratic Republic*; the exact figures for employment have not yet been reported so far, but the decelerating employment growth rates recorded in 1979 and 1980 (0.5 and 0.4 per cent respectively) suggest that more than nine tenths of the 5.0 per cent NMP growth rate recorded in 1981 was provided from a labour productivity increase. The bulk of NMP growth in 1981 was also attained by labour productivity increase in Bulgaria and the Soviet Union. The figures reported for the *Soviet Union* (2.5 per cent annual labour productivity growth) suggest that more than three quarters (78.1 per cent) of NMP growth (3.2 per cent) were provided for by increased labour productivity. The figures for *Bulgaria* so far have not been reported. But if the NMP growth rate of this country is as high as estimated (4–5 per cent) and if the employment patterns in the material sphere in 1981 were similar to those in 1979 and 1980 (for which 0.9 and 0.8 growth rates were reported respectively), the share of labour productivity in NMP increase in Bulgaria might have been roughly the same as in the Soviet Union.

Contrary to the cases of the four previous countries, labour productivity in 1981 declined in *Czechoslovkia* and *Poland*—in the former case by 0.2 per cent (as compared with a rise of 2.4 per cent in 1980 and an average annual 3.3 per cent increase in 1976–1980) and in the latter one by 13.3 per cent (as compared with a previous high decline of 5.3 per cent in 1980 and average annual growth rate of 1.7 per cent in 1976–1980). In the case of *Romania*, the increase in labour productivity was probably low. In fact, if the 2.1 per cent NMP growth rate was accompanied by the same decrease in the employment growth rate in the material sphere as recorded in 1980 (0.8 per cent—from 3.1 per cent in 1979), the labour productivity growth rate in Romania might be, as in the last two years, some 0.5–0.6 per cent. If employment in the material sphere grew faster, however, labour productivity could have remained unchanged or even have declined.

An evaluation of labour productivity growth in east European countries and the Soviet Union could not be complete unless longer-term tendencies were taken into account. The text table above suggests two other important conclusions. First, the decelerating tendencies of labour productivity growth, present during the 1976–1980 period in all countries of the region, continued in 1981 in all of them but the German Democratic Republic. Secondly, labour productivity growth rates recorded in 1981 were in most cases below the annual averages planned for 1981–1985. In fact, only in the German Democratic Republic was labour productivity growth recorded in 1981 on roughly the same level as the estimated five-year average target. In Hungary, the Soviet Union and Bulgaria it was slightly or noticeably lower, while in Romania it was probably substantially below those explicitly or implicitly planned. Actual declines, as noted above, were recorded in Czechoslovakia and Poland.

The decelerating trend of the labour productivity growth rate in most of the east European countries and the Soviet Union, although quite clear as measured by standard economic analysis, is not easy to explain, since its dependence on employment on one hand, and on NMP on the other, shows quite different long- and short-run patterns. Though it is a determinant of NMP growth rate in the long or even the medium term, labour productivity may, on the contrary, be the dependent variable in the short term if the effects of other factors involved are strong enough to cut down NMP growth rate. This is, in fact, the case in almost all countries of the region. There are no grounds for supposing that either the quality of labour, the level of equipment and technology or of management declined in 1981.

Hence the labour productivity movements described must have been due primarily to the effects of energy, fuel and raw material input shortages which brought about the deceleration of NMP growth rates, thus preventing a possible growth of labour productivity which might otherwise have taken place. This is probably the most logical explanation for all countries but Poland, in which the other factors mentioned earlier acted in the same direction.

There are no complete figures available for the supplies of *material inputs* in the region in 1981. Those which are published do, however, confirm the above conclusions. The Soviet 1981 plan fulfilment report confirms, in the first place, the declining growth rates in the main raw material output branches mentioned at the beginning of this chapter. Despite the special attention paid to these branches, plan targets for 1981 were not fulfilled in the oil-processing and petrochemical industries, coal production, production of rolled ferrous metal products, mineral fertilizers, chemical fibres and threads, wood, paper, and textiles.[259] In the case of coal production a decline as high as 0.8 per cent compared with 1980 was recorded, which amounted in absolute terms to some 6 million tons.[260] The importance of these last figures rises if the sharp decline in coal production during 1981 in Poland (by roughly 37 million tons as compared with 1979) is taken into account, the more so since plan shortfalls in coal production were also reported from Czechoslovakia[261] and Romania, and in the latter case also for crude oil and some metals.[262] Difficulties in meeting the planned targets for the production of material inputs in 1981 were exacerbated by the interdependence of the east European countries and the Soviet Union, and led to bottlenecks in several of them, thus reflecting falling coal deliveries by Poland, as well as output shortfalls in other countries.[263] It seems clear, therefore, that material input shortages were an important cause of the below-plan NMP growth rates, though it is difficult to determine precisely to what extent in each country.

The effects of unfavourable tendencies in domestic production of energy, fuel and raw materials, and also in east European import capacities could, of course, have been diminished if the countries' programmes economizing on these products had been implemented to a larger extent. Except in the German Democratic Republic and Hungary, however, these programmes did not yield the expected savings.[264] In the Soviet Union and Bulgaria, at least judging by NMP growth rates, the efficiency of material input use was to some extent higher in 1981,[265] but not so much as necessary to offset the increasing scarcity of material inputs. The most successful countries in material input savings were Hungary and, especially, the German Democratic Republic. The stable—and in the last three years even accelerating—NMP growth rates in the German Democratic Republic—can, in fact, be explained mostly by economic policy measures aimed at saving energy and raw materials; specific consumption of the most important energy sources and raw materials, as reported by the country, decreased during 1981 alone by some 5 per cent.

The increasing tightness in material input supplies during 1981 may also have acted on the *investment sector*. In all countries of the region gross fixed capital formation growth rates were noticeably substantially lower than those of net material product. In some countries, as envisaged by the annual plans, even absolute contractions were recorded.

The German Democratic Republic and the Soviet Union were the only countries in the region to indicate any growth in investment in 1981 (an estimated 1.8 and a reported 3.4 per cent respectively). Declines in the other countries ranged between 1 per cent in Romania, 3.6 per cent in Czechoslovakia, an estimated 5 per cent in Bulgaria and very substantial falls of 9 and 25 per cent, respectively, in Hungary and Poland. The big decline in Hungary, although justified by official commentators as a specific cost of the country's objective to attain a sound path of internally and externally balanced economic development, implied a net capital formation ratio of some 16 per cent; this is, according to the same source, considered as approaching the technical minimum.[266] An exceptionally high decline by historical standards was also recorded during 1981 in Romania (some 6.7 percentage points). The highest absolute decline of gross capital formation during 1981, however, was recorded in Poland.

Slower growth or reduced investment levels as compared with NMP growth in 1981 was accompanied by a further decline in the *efficiency of investment*. In fact, incremental capital:output ratios (ICORs), the reciprocal measure of capital productivity in NMP terms, decreased only in the German Democratic Republic (from some 8.0 in 1971 and 7.1 in 1980 to 5.8 in 1981), whereas in all other countries it increased (table 3.4.1). The reliability of ICORs as a short-term indicator, however, should not be overestimated—not only because of obvious time-lags between the investment process and the putting into operation of fixed assets, but for the reasons discussed with regard to labour productivity movements in 1981. In other words, though ICORs are a longer-term determinant of NMP growth, short-term movements may be influenced by non-related short-term factors, constraining NMP growth itself.

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[259] *Pravda*, 24 January 1982.

[260] Calculated on the basis of 716.4 million tons reported for 1980 (*Narodnoe Khoziaistvo SSSR v 1980 godu*, p. 157) and index number for 1981 against 1980 (99.2 per cent). The constraining effect of coal output is even stronger if it is taken into account that absolute contractions were recorded also in 1979 and 1980, by some 5 and 2.3 million tons respectively.

[261] *Rudé Právo*, 31 October 1981.

[262] *Romania, Documents-Events*, Agerpress, November 25–26, 1981, p. 4.

[263] By the end of October 1981, L. Strougal, Prime Minister of Czechoslovakia, reported that during the last months of 1981 cuts in electricity supplies would be necessary, because of shortfalls in domestic coal supplies and because electricity deliveries by Romania had been stopped. *Rudé Právo*, 31 October 1981.

[264] This is true even for such an industrially developed country as Czechoslovakia: "According to the Prague-based Research Institute for Foreign Trade, Czechoslovak engineering enterprises can only produce from a given amount of metallurgical raw materials products worth 2.5 times less than in the EEC. At the same time consumption of fuels and energy is 20 to 30 per cent higher per head than in most west European countries." *Financial Times*, 1 November 1981.

[265] Thanks to savings in material expenditures, as reported by the 1981 plan fulfilment report (*Rabotnichesko Delo*, 3 February 1982) Bulgaria recorded some 0.5 billion leva of above-plan profit.

[266] Both judgements were given by B. Czikós-Nagy, Chairman of the Hungarian National Materials and Price Office, *Magyar Nemzet*, 24 December 1981, p. 3.

Closely linked to movements in investment process are developments in the *allocation of other resources for domestic use.* According to economic policy orientations implemented for several years already, consumption funds in most east European countries and the Soviet Union (with possible exceptions in Bulgaria and Romania, for which figures were not available at the time of writing), tended to rise faster than net capital formation, but slower than net material product. This reflected in the first instance policy objectives to accelerate the growth of expenditures on consumers' material and cultural needs, and secondly, to provide room for a reallocation of resources to reduce foreign indebtedness. At least two countries, however, recorded different patterns in 1981. Real incomes per head, which reveal changes in both personal and social consumption, rose faster than NMP in 1981 in Czechoslovakia and Hungary (1.6 per cent against 0.2 per cent in Czechoslovakia and 2.2 against 1.8 per cent in Hungary, respectively). In the Soviet Union, real incomes rose only slightly faster than NMP (by 3.3 per cent against 3.2 per cent), while in the Ukrainian SSR the growth rates of both were the same (3.0 per cent). Within resources for consumption, and in line with the long-term policy of all countries of the region, real wages rose slower than resources directed to social consumption's funds. The range of real wage increases in the countries for which relevant data are available varied between 2.1 per cent in the Soviet Union and 1.0 per cent in Czechoslovakia. Hence, real wages rose in most countries at slower rates than NMP produced. Exceptionally, real wages rose faster than NMP in both Czechoslovakia and Hungary during 1981 (1.0 per cent against 0.2 per cent and 2.0 per cent against 1.8 per cent respectively). The authorities in both countries acknowledge that such relations cannot persist in the longer term and a reversal of this relative increment is envisaged in 1982.

Very few data on *foreign trade* are included in annual plans or annual plan fulfilment reports, hence only tentative conclusions about trends in this sphere can be formulated so far. Annual percentage changes in foreign trade turnover reported by some countries (15 per cent in Bulgaria, 7.5 per cent in Czechoslovakia, 10 per cent in the German Democratic Republic) implicitly suggest that in 1981, foreign trade in eastern Europe and the Soviet Union rose faster than net material product. The fact that these rates relate to the value of turnover, however, limits the significance of this conclusion, since substantial price changes took place on both the export and the import side. The foreign trade volume estimates given in section 3.6 do, however, provide a tentative basis of evaluation.

The different situation of the Soviet Union vis-à-vis eastern Europe in trade has given rise to some contrasting developments. The estimates reported in table 3.6.3, suggest that both export and import volumes in eastern Europe fell below the 1980 level in 1981. There was a significantly larger fall on the import side (6 as compared with 2 per cent)—in line with east European policy orientations to redress external imbalances which built up in 1976–1980. The consequent reduction in material input supplies and the growth constraints to which they apparently gave rise, could not have been avoided, given the need to readjust trade balances, except by a faster growth of east European exports. But the weakness in external demand and the persistent deterioration in eastern Europe's terms of trade made this impossible in the short term.

However, the reorientation adopted did bring about some positive results: the estimated trade deficit of the east European countries in 1981, at $3.4 billion, is one-third lower than was recorded in 1980 ($5.1 billion) and moreover, substantially lower than the average annual $5.9 billion during 1976–1980. As a longer-term objective, however, policies to encourage faster growth of export oriented branches—already implemented in Hungary and also, although on a smaller scale, in the German Democratic Republic and recently announced in Bulgaria—seem much more appropriate to the size and natural endowment of these countries than the implicit or explicit self-sufficiency option incorporated in some short-term foreign trade plans.

The volume of the *Soviet Union's* trade turnover in 1981 increased markedly, but this was entirely due to imports. The volume of exports, after rising slowly in the three previous years, appears to have decreased by some 4 per cent in 1981. Since the terms of trade seem to be substantially improved, the balance of trade of the country recorded a surplus estimated at some $US 3.9 billion—half the 1980 level but roughly the same as the average trade surplus recorded during 1976–1980 ($US 4.0 billion).

Within the aggregate figures for eastern Europe as a whole, individual countries showed different changes. Czechoslovakia and Romania, if estimates were confirmed, may not only have further reduced their trade deficit but moved into surplus. On the same assumptions, Hungary and Poland may have slightly reduced their respective deficits. Foreign trade deficits in 1981 would have increased only in the German Democratic Republic and in Bulgaria after a surplus in the preceding years in the latter country.

The apparent decrease in foreign trade turnover in volume terms, is rather different from the policies incorporated in the five-year plans. This can be partially attributed to the combined effects of several factors. Cumulated foreign trade deficits in all east European countries but Bulgaria forced most of them to reduce imports to much lower levels—in fact, temporarily at least, to the minimum possible. Decreasing possibilities for new borrowing (section 3.6(iii))—the more so since the substantially increased interest rates absorbed an even greater share of available foreign exchange—acted in the same direction. The overall deterioration of the climate for economic co-operation in 1980–1981 reinforced the effect of the above-mentioned factors. The east European countries and the Soviet Union, however, do not consider current trends to be lasting, but rather a temporary setback that should and will be surmounted.[267]

No big changes in *management and planning practice* were reported in the region in 1981, though there were some variations from country to country. Probably the least changes occurred in the *German Democratic Republic* and *Hungary*, management and planning practices of which in some respects (the comprehensiveness and procedures of central planning: price formation criteria and mechanisms; the degree of interaction between domestic and international economic movements, etc.) are in fact rather different. However, in both countries the institutional structure is based on principles defined several years ago, so that subsequent change has taken the form of adjustments to the mechanisms developed earlier. In the *Soviet Union, Czechoslovakia* and *Bulgaria*, the process of change according a number of decrees approved during the last two years is taking place. In almost all of them, however, the scope of changes implemented so far, though the changes themselves are judged to be positive, is already being found insufficient. In particular the persistence of old style management attitudes is considered one reason for below-plan performance and for many of the other shortcomings registered during 1981.[268] Both Czechoslovakia and the Soviet Union called for the full implementation of decrees approved in 1979–1980—not only during the year but particularly at the end of 1981 when the five-year plans for 1981–1985 and annual plans for 1982 were considered and approved. In Bulgaria, developments were more substantive. Calls to continue the implementation of the new economic mechanism culminated with the approval on 31 December, 1981 of two comprehensive new decrees, which entered into operation on 1 January 1982. In *Romania* too, changes in management and planning were announced on several occasions in 1981, following the line of implementing "self-management and self-administration". Concrete steps in this direction were taken during 1981. Current domestic and foreign imbalances, however, also gave rise to the introduction of measures reminiscent of traditional management and planning mechanisms—including rationing of basic foodstuffs and rigid control of foreign trade transactions. By the end of the year an evident dissatisfaction with current management and planning practices was expressed,[269] indicating that the process of developing new economic mechanisms continues. The largest changes in economic management and planning during 1981 were announced in *Poland*. Several drafts for economic reform were published and discussed during the year. At the beginning of December 1981, the drafts of eight fundamental laws were forwarded to the Polish Parliament (Sejm). The introduction of martial law on 13 December, 1981, however, has affected all aspects of the country's life—including economic ones. According to official statements, however, martial law was not introduced to prevent economic reform but rather to eliminate obstacles to its introduction and to create room for its implementation.[270]

### (v) Policy objectives for 1982

The policy objectives of the east European countries and of the Soviet Union for 1982 were laid down according to the five-year plan strategies and also in response to short-term conditions which developed during 1980–1981. In most cases, annual growth rates in *net material product* terms are envisaged at levels slightly or substantially lower than those recorded in 1981 (except in Czechoslovakia and, to a much greater extent, in Romania). At the same time, NMP growth rates planned for 1982 are somewhat and, in some of them markedly, lower (Czechoslovakia, Hungary, Romania) than the annual averages incorporated in the five-year plans for 1981–1985. Similar comments may be made for the *industrial growth rates:* except in Romania and the Soviet Union they are in most cases set at levels below those attained in 1980, reflecting anticipated problems of shortages in both domestic and imported material inputs. In most cases industrial growth rates in gross terms are higher than NMP growth, but there are some exceptions: in Romania the two growth rates retained (both in NMP terms) are roughly the same, while in the German Democratic Republic the gross industrial growth rate is slightly lower than that of NMP (4.6 as compared with 4.8 per cent, respectively). The industrial growth rate of the Soviet Union envisaged for 1982 is as high as the annual average in the 1981–1985 five-year plan (4.7 per cent). In all other countries the annual growth of industry in 1982 is set at levels slightly to markedly lower than the average NMP annual rates incorporated in the five-year plans. A rather unfavourable agricultural year and disappointing agricultural output in 1981 in most countries of the region conditions the higher-than-usual pattern of *agricultural growth rates* planned for 1982, and in all countries but Bulgaria and the German Democratic Republic (including also Poland where the 1981 harvests were good) the annual growth rate of gross agricultural production is markedly and in some cases very substantially higher than targeted NMP growth. Figures for construction are only available for the German Democratic Republic (an annual growth of 2.0 per cent) and Hungary (a decline of 1–2 per cent).

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[267] At the beginning of January 1982, N. Patolichev, the Soviet Minister of Foreign Trade, among others, pointed out: "Development of mutually beneficial trade with industrially developed capitalist countries is a feature of no small importance within the whole complex of foreign economic relations, which allow good use to be made of the advantages of international division of labour in the interests of the solution of our economic tasks." *Pravda*, 9 January 1982.

Two weeks later a similar statement was incorporated in the communiqué of the Executive Committee of CMEA: "All countries of the world are interested in the maintenance of normal inter-state relations, including economic ones." *Pravda*, 22 January 1982.

[268] According to the communiqué given by TASS, during the consideration of the results of the annual plan for 1981, the Council of Ministers of the USSR stated: "Ministries and departments of the USSR and Councils of the federal republics are slowly carrying on the work of rebuilding the style and methods of economic management; sufficient attention is not paid to implementing measures to achieve increased efficiency of production, the growth of labour productivity, an accelerated transition of industrial branches and of the national economy on to the intensive path of development." *Pravda*, 23 January 1982.

[269] In November 1981, N. Ceausescu, the President, pointed out: "We may say that the shortfalls have objective causes too, but they are especially determined by subjective causes, by the shortcomings manifested in the activity of economic management and planning, in the world of Party and State bodies and organizations for resolution of the complex problems posed by the country's socio-economic development." *Romania—Document-Events*, Agerpress, 25–26 November, 1981, p. 5.

[270] On 25 January 1982, the Polish Parliament in plenary session adopted a resolution in which, among others, it was stated: "The Sejm states that the introduction of martial law was necessary since it was a lesser evil than the bloody confrontation which it prevented and since it created the possibility for a normal functioning of the state and its organs, of the economy and of social life." *Trybuna Ludu*, 26 January 1982, p. 1.

At the same session, W. Jaruzelski, the Prime Minister of the country, declared: "The decision to implement the economic reform, in spite of the dramatic conditions of the crisis, constitutes a measure of our determination to carry out a complete and consistent transformation." *Idem*, p. 3.

Very few figures are available so far for *employment and labour productivity*. The longer-term trends discussed in previous sections suggest that the growth of employment in most countries will be below 0.5 per cent in the material sphere and that in some countries a further decline is almost certain. The bulk of NMP increments therefore will have to result from increasing labour productivity, as was pointed out in some annual plans for 1982 (for example, Bulgaria).

Not many figures have been reported so far for material inputs. Energy, fuel and several crucial raw materials, in particular metals, will remain the major limitation on any substantial expansion of economic activity, since available *material inputs* will stay virtually the same or, in some cases and in several countries, could even fall in absolute terms. All east European countries and the Soviet Union, therefore, envisage important economies in energy, fuels and raw materials.

All countries of the region pay special attention in their annual plans to *foreign trade* issues. The east European countries in particular, have expressed dissatisfaction with the results attained during 1981. The growth constraining effects of foreign trade might be accentuated especially in Czechoslovakia and Romania—the two countries where economic performance appears to have been most affected by external imbalances in 1981. The greatest difficulty in the field of foreign economic relations, however, will undoubtedly be experienced by Poland—not only because of its high foreign indebtedness and heavy debt servicing liabilities, but also because of its currently low export capacity, high import dependence and the economic sanctions recently imposed by some western countries.

No substantial changes are envisaged in the *allocation of resources for domestic use* in any country of the region. *Gross capital formation* in all east European countries and the Soviet Union is expected to lag behind the growth of net material product, only slightly in Romania but probably more noticeably in Bulgaria and even more so in other reporting countries. In Czechoslovakia and Hungary a decline in volume terms is even envisaged by some 3.3 per cent in the former and by possibly 4–5 per cent in the latter country. *Consumption growth* will continue in most of them to outstrip the rise in net capital formation, but will lag behind the growth rates envisaged for NMP produced. *Real incomes per capita* are expected to rise by 2–3 per cent during 1982, but may remain roughly unchanged in Hungary and Czechoslovakia—and even decline in the latter. Since social consumption is expected to rise faster than total consumption, *real wages* will rise in most cases more slowly than real incomes per head. There may be some exceptions however; low NMP growth rates in some countries may bring about stagnation of real wages in those countries in which their rise during 1981 outstripped NMP growth, while in other cases the need for a much more stimulative wage fund distribution practice might boost real wage growth above the growth of real income per capita. This is particularly so in those countries where larger cuts in subsidies are envisaged.

Within these general trends, the annual plans of individual countries have a number of specific features determining their current economic situation and their five-year plan preferences.

In *Bulgaria*, the annual plan for 1982 envisages an NMP growth rate as high as 3.6 per cent, compared with the 4–5 per cent estimated for 1981 and an average annual five-year plan growth rate target of 3.7 per cent. According to the annual plan, gross industrial output will continue to grow faster than that—by 4.5 per cent. Gross output of agriculture should rise by about half the industrial growth rate (2.2 per cent). Almost all the increase of net material product in the country is expected to be attained by labour productivity increases, the growth rate for which (3.5 per cent) is planned at 97 per cent of the NMP target. Gross capital formation, for the first time in the annual plan, is expected to rise at a slower rate than NMP. Some 70 per cent of investment envisaged for the material sphere is to be directed to the reconstruction and modernization of existing capacities, thus implying a larger share of machinery and equipment in total investment. Foreign trade is targeted at faster rates than NMP, while the requirements of foreign markets, according to new regulations introduced in 1980, will determine the economic activity of the country and individual enterprises to a greater extent than hitherto. The share of the socialist countries—in particular the CMEA countries—is expected to rise further. Total consumption is expected to rise more slowly than NMP, so that real incomes per capita will increase by some 3 per cent. Within this, social consumption funds (with an annual rate as high as 3.5 per cent) are expected to outstrip the increase in real wages, for which no figure was reported. From 1 January 1982 a comprehensive new economic mechanism was introduced, the main characteristics of which are the strengthening of cost-accounting systems (*khozraschet*), an extension of enterprise financial self-sufficiency, together with the establishment of closer linkage of wage funds with output marketed within and outside the country.

Judging from the annual plan targets, the factors constraining economic expansion in *Czechoslovakia* will continue to strongly affect developments in 1982. NMP growth is planned at 0.5 per cent only—slightly, higher than the 1981 outcome (0.2 per cent) but nonetheless considerably below the average annual rate envisaged by the 1981–1985 five-year plan (2.0–2.6 per cent). Industrial gross output is expected to rise by nearly the same rate (0.6 per cent), while gross agricultural output growth is scheduled at 3.2 per cent. This could be attainable in view of the previous year's 3.4 per cent decline in output. Underlying these historically low growth targets is the country's determination to achieve external economic balance. Accordingly, a decline of as much as 3.3 per cent is envisaged for gross capital formation, while levels of social and private consumption are to be no more than maintained, roughly at the levels already achieved. Special attention is paid in the plan to the accelerated implementation of five-year plan objectives, to the attainment of further shifts of the economy on to the path of intensive developments—particularly with regard to reducing material inputs per unit of output. It was reported that the country's heating oil supplies in 1982 will be approximately 1.6 million tons—17.3 per cent—lower than in 1981. Hence very specific economy targets for fuel and other raw materials are envisaged. Foreign trade turnover increases and targets for the balance of payments with the non-socialist countries are ranked amongst the most demanding tasks of the annual plan. First growth priorities are accorded to trade with socialist countries, but a still high 7.5 per cent growth with the non-socialist countries is envisaged. Czechoslovakia is at the same time actively seeking new markets, since it ranks as one of the most import and export dependent countries of the region.

Judging by the annual plan for 1982, the *German Democratic Republic* envisages further development along the lines recorded in the last five-year period. The 4.8 per cent increase in NMP incorporated into the plan is slightly lower than those recorded during 1981 and envisaged by the five-year plan 1981–1985 (5.0 and 5.1 per cent respectively). Average labour productivity increases as high as 4.5 per cent imply that about 94 per cent of NMP growth will be provided from labour productivity increases.

Gross industrial output is planned to rise by 4.6 per cent, construction by 2.5 per cent and agriculture by only 0.2 per cent.

No gross investment growth rate was reported, but other indicators—not least the five-year plan objectives—suggest some decline in volume terms. The bulk of gross fixed capital formation will be directed to the rationalization and modernization of existing productive capacity, and investment productivity is expected to increase substantially against 1981. Demanding targets have been set for energy and raw material savings. During 1982 the overall consumption of energy is scheduled to fall by 4 per cent, consumption of rolled metals by 6.5 per cent and cement by 5.5 per cent, while the total quantity of raw materials recycled should increase by 4 per cent. Foreign trade turnover is targeted to increase by 15 per cent (almost certainly in value terms), with the share of the socialist countries in the total set at some 70 per cent. The pattern of the allocation of resources for domestic use are not given in detail but will probably stay roughly unchanged.

The annual plan of *Hungary* for 1982 is determined by a strategy of strict adherence to balanced economic growth, particularly as far as foreign economic relations are concerned. The annual growth rate of NMP is planned at 1.0–1.5 per cent, as compared with 1.8 per cent recorded in 1981 and an average annual 2.6–3.2 per cent envisaged in the five-year plan for 1981–1985.

However, the rates retained for gross industrial and agricultural output (2.0–2.5 and 4.0–4.5 per cent respectively), suggest that a higher NMP growth outcome during 1982 is not excluded by the Hungarian planners, since these two sectors accounted together for some two thirds of the country's NMP in 1980. Demanding targets are set for foreign trade: in volume terms exports should rise by 6–8 per cent and imports by 2–3 per cent in 1982. With regard to the allocation of resources for domestic use, gross capital formation in current prices is expected to remain roughly at the level of 1981, thus implying a decline by possibly 4–5 per cent in volume terms. The bulk of investment will be directed to the modernization and reconstruction of productive capacity; the share of construction in total investment will fall, and efforts will be directed toward increasing the efficiency of the investment sector as a whole. As in 1981, when an increase in NMP produced was accompanied by an unchanged level of NMP distributed, real incomes in Hungary during 1982 are expected to be maintained at levels already achieved—or possibly to increase by 0.5 per cent. The average monthly wage in the country is scheduled to rise in nominal terms by 4–5 per cent or roughly the same as retail prices (up to 5 per cent); this implies an unchanged level or a slight fall in real wages, particularly if any rise in the social consumption funds takes place.

No annual plan for 1982 has been approved in *Poland*, since the overall socio-economic situation of the country at the beginning of 1982 did not provide any firm ground for projections. According to the recovery programme announced in the autumn of 1981, the implicit intention of the government is to arrest the sharply declining trend in industrial performance recorded in the last seven years; to maintain or possibly to increase agricultural output and thus to arrest any further decline in NMP. Judging by the general trend toward slower growth since 1976, as well as the factors mentioned above, this may be a difficult task to perform. At the same time, the country has reached a point where a substantial upturn is indispensable.

Judging by the annual plan for 1982 in *Romania*, the authorities are becoming increasingly aware of the rather ambitious nature of the five-year plan targets. Indeed, the 5.5 per cent NMP growth rate envisaged for 1982 would, if attained, and taken in conjunction with the 2.1 per cent rise recorded in

1981, imply an average annual NMP growth rate for 1983–1985 of as much as 9.4 per cent, if the rise targeted under the five-year plan provisions (an annual average of 7.1 per cent) were to be attained. The annual plan of Romania for 1982 therefore calls for higher efficiency in all sectors of the national economy, especially as far as energy, fuels and raw materials are concerned. The industrial growth rate envisaged by the plan is roughly the same as for NMP (5.6 per cent), while agricultural gross output is expected to rise faster (by some 6.0–7.9 per cent). To boost the growth of the national economy, the plan includes a 5 per cent growth target for gross capital formation—very close to the NMP objective. Other resources for domestic use are likely to rise at lower rates—the more so since the 14 per cent growth rate of foreign trade turnover incorporates targets for faster export growth than for imports following a call for import cuts pronounced at the time the plan was prepared. As far as the geographical orientation of foreign trade in the Romanian annual plan is concerned, an increasing share of CMEA countries in total foreign trade of the country is expected; Romania has several times already indicated its dissatisfaction with present levels of trade with other CMEA countries—especially the Soviet Union, in its trade with which oil and other material exports now play a substantially less important role than in former years.[271]

The annual plan of the *Soviet Union* for 1982 envisages NMP growth rate of 3.0 per cent—slightly lower than recorded either in 1981 or scheduled as the average annual target in the five-year plan for 1981–1985 (3.2 and 3.4 per cent respectively). If the growth rates forecast for gross industrial output (4.7 per cent) and agricultural production (10.2 per cent over average annual output in the 1976–1980 period) were achieved, the NMP growth rate could be higher, since a broad programme of energy, fuels and raw materials saving is envisaged. Within industrial output, production of producers' goods is expected to rise slightly faster than consumer goods (4.8 as compared with 4.6 per cent), thus implying that the preferential growth of the latter relative to the former envisaged in the five-year plan is reserved for the remaining years of the quinquennium. Gross capital formation according to the annual plan is to rise by 0.9 per cent in the state sector, indicating a higher investment efficiency and priority allocation to reconstruction, modernization and enlargement of existing capacities. The labour productivity plan target is a rise of some 4.1 per cent in industry, 3.5 per cent in construction and 1.6 per cent in rail transport, and the average labour productivity increase of some 2.5 per cent should provide some five sixths of the NMP growth. Resources for total consumption, as in the previous period, are expected to rise faster than net capital formation but slower than net material product. Real incomes, therefore, should be some 2.1 per cent higher in 1982 than in 1981. The wage fund of the national income is planned to rise by 3.2 per cent, and social consumption funds by 4.1 per cent (3.1 per cent per head of population). As far as foreign trade is concerned, a further expansion is expected, in particular with the socialist, developing and some western countries.

All in all, the analysis of economic developments in 1981 and of policy objectives for 1982 in east European countries and the Soviet Union confirms three main conclusions drawn on the basis of the analysis of major outcomes of developments in 1976–1985. These are the presence of long-term decelerating trends in the economic development of the region, the identification and analysis of their causes, and the elaboration of economic growth strategies during the first years of the five-year period to create the foundation for stable or possibly slightly more buoyant growth in the second half of the 1980s.

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[271] The share of CMEA countries in Romanian foreign trade turnover amounted to 49.3 per cent in 1970 but fell to 38.0 per cent in 1975 and 33.8 per cent in 1980. *Development of Economies of CMEA Member Countries in 1971–1980* (in Russian), CMEA Secretariat, Moscow, 1981, pp. 139–141.

# 2. AGRICULTURE

The objectives, targets and measures included in the five-year plans for the period 1976–1980 continue the global agricultural production development strategy on basically the same lines as in the preceding five-year period. The intention was to raise the efficiency of use of productive resources, taking into account the limited supply of agricultural land and a further decline, even if smaller than before, in the agricultural labour force. Further rises in capital, material supplies and technology, together with improvements in the skills and qualifications of the labour force, were allocated for these purposes. Industrial-type technologies were increasingly adopted, and links between agriculture and industrial branches supplying inputs or processing the output of the sector were established.

In the following paragraphs an attempt is made to analyse the recent development of the sector of agriculture in eastern Europe and the Soviet Union and to give information about planned development of agriculture in 1981–1985. This concerns mainly outputs, inputs, problems of efficiency and structure. The analysis is not dealing with the consumption side of agricultural products either for supplying the population with foodstuffs or the industry with raw materials. That is also valid concerning the role of agriculture in foreign trade relations of the countries.

## (i) Growth of output

Plans for 1976–1980 paid special attention to optimizing agricultural output, and, in particular, to the removal of structural disproportions, and reductions in the wide variations in output from year to year. Policies promoted a narrowing of the gap between the growth of livestock production relative to crop, and, in particular, fodder output.

Targets for the growth of gross agricultural output in 1976–1980 were set in most countries at annual average growth rates 0.5 per cent above or below the results in the preceding five-year period—except in Bulgaria and Romania where accelerations of 1.4 per cent and 0.4–2.9 per cent respectively were scheduled. But, as can be seen from the text table below, the results were not in accordance with expectations. The total growth of output was smaller than planned. Crop production was generally characterized by slow growth and wide annual fluctuations, which enlarged structural disproportions in the German Democratic Republic, Poland and the Soviet Union (table 3.2.1, and chart 3.2.3 on page 182).

**Growth of agricultural output**[a]
*(Average annual percentage changes)*

| | *1971–1975 Actual* | *1976–1980 Plan* | *1976–1980 Actual* | *1981–1985 Plan* |
|---|---|---|---|---|
| Bulgaria | 2.3 | 3.7 | 2.1 | 3.4 |
| Czechoslovakia | 3.0 | 2.7 | 1.7 | 1.8–2.2 |
| German Dem. Rep. | 2.1 | 2.6 | 1.1 | 1.1 |
| Hungary | 3.5 | 3.2–3.4 | 2.9 | 2.3–2.8 |
| Poland | 3.2 | 3.0–3.5 | 0.5 | ... |
| Romania | 4.7 | 5.1–7.6 | 4.9 | 4.5–5.0 |
| Soviet Union | 2.5 | 3.0 | 1.7 | 2.5 |
| Byelorussian SSR | 2.6 | 2.3 | 1.6 | 2.1 |
| Ukrainian SSR | 2.9 | 2.5 | 1.6 | 2.3 |

*Sources:* National statistics, *CMEA Statistical Yearbooks*, plan documents, plan fulfilment reports.

[a] Average annual percentage changes calculated on the basis of previous five-year period total.

The development of livestock production was a primary feature of agricultural development over the last ten years in all countries. Efforts to increase output and improve nutritional standards were held back by the slow development of crop production in general and fodder crops in particular. Only Hungary succeeded in ensuring a balanced development of crop and livestock production (see text table below).

In *Bulgaria*, crop production accounts for more than half of total gross agricultural output. This is partially the result of natural conditions which favour the cultivation of high-value crops for industrial processing. Nevertheless, its share fell from 64.7 per cent in 1970 to 52.2 per cent in 1980. Gross agricultural output increased by 4 per cent in 1981. In 1982, a growth of 2.2 per cent is planned.

In *Czechoslovakia*, crop production averaged 45 per cent of total agricultural output during 1970–1980, a share which has remained fairly steady over a long period. Agricultural production growth decelerated between the first and second half of the 1970s, to an average annual growth rate of 1.7 per cent in 1976–1980. Crop production variations were very marked and had an impact on livestock output. Poor cereal harvests were a main cause of this moderate performance. After the good results in 1980, performance in 1981 was disappointing; gross

**Crop (A) and livestock (B) production and their proportions in total agricultural output**
*(Average annual percentage change[a] and average percentage share in total output)*

| | 1971–1975 | | 1976–1980 | | 1980 | | 1981 | |
|---|---|---|---|---|---|---|---|---|
| | *A* | *B* | *A* | *B* | *A* | *B* | *A* | *B* |
| *Bulgaria* | | | | | | | | |
| Change | 0.1 | 5.5 | 0.4 | 4.4 | −8.7 | 0.5 | . . | . . |
| Share | 59.3 | 40.7 | 54.5 | 45.5 | 52.2 | 47.8 | . . | . . |
| *Czechoslovakia* | | | | | | | | |
| Change | 1.9 | 3.8 | 1.3 | 2.1 | 9.1 | 3.7 | −7 | – |
| Share | 45.2 | 54.8 | 44.3 | 55.7 | 44.3 | 55.7 | 42.6* | 57.4* |
| *German Democratic Republic* | | | | | | | | |
| Change | −0.1 | 3.2 | 0.1 | 1.8 | −3.7 | 3.2 | −3.0* | 5.0* |
| Share | 45.0 | 55.0 | 40.3 | 59.7 | 38.1 | 61.9 | 36.9* | 63.1* |
| *Hungary* | | | | | | | | |
| Change | 2.6 | 3.7 | 2.4 | 3.5 | 6.9 | 1.5 | −2.4 | 2.2 |
| Share | 53.5 | 46.5 | 52.1 | 47.9 | 52.4 | 47.6 | 51.2 | 48.6 |
| *Poland* | | | | | | | | |
| Change | 2.2 | 4.2 | −0.5 | 1.7 | −15.2 | −5.6 | 20.3 | −12.5 |
| Share | 57.0 | 43.0 | 54.2 | 45.8 | 50.6 | 49.4 | 58.8* | 41.2* |
| *Romania* | | | | | | | | |
| Change | 3.9 | 6.1 | 3.8 | 6.3 | −6.1 | −2.2 | . . | . . |
| Share | 59.5 | 40.5 | 56.5 | 43.5 | 55.1 | 44.9 | . . | . . |
| *Soviet Union* | | | | | | | | |
| Change | 0.9 | 4.1 | 1.5 | 1.5 | −3.0 | −2.0 | . . | . . |
| Share | 46.3 | 53.7 | 45.8 | 54.2 | 44.8 | 55.2 | . . | . . |

*Sources:* As for table 3.2.1.

[a] Five-year period over preceding five-year period.

agricultural output fell by 3.4 per cent, of which crop production by 7.1 per cent. In 1982 an increase by 3.2 per cent is envisaged.

In the *German Democratic Republic*, livestock production accounted for 61.9 per cent of gross agricultural output in 1980. This mainly reflects disappointing performance in crop production in the previous five-year plan period, including wide year-to-year fluctuations and stagnating, in some cases even decreasing, yields per hectare of grain, potatoes and sugar beet. Due to increasing livestock output and relatively good results in crop production, total gross agricultural output increased by an estimated 3 per cent in 1981.

*Hungary's* performance fell slightly below the target for agricultural output growth. The successful development of arable farming, especially maize, on the basis of high yielding varieties and increased fertilizer supply in large-scale farming, made possible a rapid rise in livestock output. Arable output continued to account for over half of gross output. Gross agricultural output stagnated in 1981 due to crop production which decreased by 2.4 per cent. In 1982 a growth at 4–4.5 per cent of gross agricultural output is foreseen.

In *Poland*, the rapid rise in agricultural output during 1971–1975 was reversed in 1976–1980. Several factors played a role. First, the large number of elderly farmers within the predominant private farm sector led to a liberalization of the terms of state pension eligibility, resulting in a considerable transfer of privately held land to the socialized sector at rates too fast to maintain the levels of efficiency with which it had previously been cultivated. Second, shortages of material inputs and unfavourable weather conditions in several years led to declines in arable and fodder output, which in turn caused falls in the livestock population and an increasing demand for food and fodder imports. Due to the sharp falls in agricultural output in 1979 and 1980, the average annual growth of production in 1976–1980 declined to only 0.5 per cent compared with 1971–1975. Arable production fell below the 1971–1975 level, and the structure of output was marked by a fall of 8 percentage points in the share of arable output in total gross output. The situation improved in 1981. Gross agricultural output increased by 4.1 per cent due to good results in grain production.

During 1976–1980, *Romania* achieved the highest average annual growth rate of agricultural output in the region (4.9 per cent). In spite of some fluctuations, crop production increased considerably. On this basis, animal production developed fast and increased its share in total production from 40.9 per cent in 1976 to 44.9 per cent in 1980.

The *Soviet Union* increased agricultural output on average by 1.5 per cent annually. Three successful years, including a record grain harvest in 1978, were

TABLE 3.2.1

Gross agricultural output

| *Country and period* | *Annual percentage change* | | | *Percentage share of total output* | |
|---|---|---|---|---|---|
| | *Total* | *Crop* | *Animal* | *Crop* | *Animal* |
| *Bulgaria* | | | | | |
| 1976 | 4.1 | 5.6 | 2.1 | 57.5 | 42.5 |
| 1977 | −4.6 | −9.5 | 1.9 | 54.6 | 45.4 |
| 1978 | 4.3 | 4.4 | 4.1 | 54.7 | 45.3 |
| 1979 | 6.0 | 5.6 | 6.5 | 54.5 | 45.4 |
| 1980 | −4.5 | −8.7 | 0.5 | 52.2 | 47.8 |
| Plan 1981 | 4.7 | .. | .. | .. | .. |
| 1981 | 4.0 | .. | .. | .. | .. |
| Plan 1982 | 2.2 | .. | .. | .. | .. |
| *Czechoslovakia* | | | | | |
| 1976 | −2.4 | −6.3 | 0.7 | 42.9 | 57.1 |
| 1977 | 9.1 | 15.6 | 4.2 | 45.4 | 54.6 |
| 1978 | 2.6 | 2.8 | 2.5 | 45.5 | 54.5 |
| 1979 | −4.2 | −9.3 | – | 43.1 | 56.9 |
| 1980 | 6.1 | 9.1 | 3.7 | 44.3 | 55.7 |
| Plan 1981 | 2.6 | 6.8 | – | 45.8 | 54.2 |
| 1981 | −3.4 | −7.1 | – | 42.6* | 57.4* |
| Plan 1982 | 3.2 | .. | .. | .. | .. |
| *German Democratic Republic* | | | | | |
| 1976 | −5.3 | −12.6 | −0.9 | 34.9 | 65.1 |
| 1977 | 7.1 | 20.3 | – | 39.2 | 60.8 |
| 1978 | 1.4 | 0.8 | 1.7 | 39.0 | 61.0 |
| 1979 | 2.8 | 4.8 | 1.5 | 39.7 | 60.3 |
| 1980 | 0.5 | −3.7 | 3.2 | 38.1 | 61.9 |
| Plan 1981 | 0.8[a] | .. | .. | .. | .. |
| 1981 | 3.0* | −0.3* | 5.0 | 36.9* | 63.1* |
| Plan 1982 | 0.2[b] | .. | .. | .. | .. |
| *Hungary* | | | | | |
| 1976 | −2.7 | −7.1 | 2.7 | 51.9 | 48.1 |
| 1977 | 10.3 | 12.0 | 8.4 | 52.7 | 47.3 |
| 1978 | 2.0 | 1.0 | 3.0 | 52.2 | 47.8 |
| 1979 | −1.1 | −3.2 | 1.2 | 51.1 | 48.9 |
| 1980 | 4.3 | 6.9 | 1.5 | 52.4 | 47.6 |
| Plan 1981 | 3.0 | .. | .. | .. | .. |
| 1981 | 0.0 | −2.4 | 2.2 | 51.2 | 48.6 |
| Plan 1982 | 4.0−4.5 | .. | .. | .. | .. |
| *Poland* | | | | | |
| 1976 | −1.1 | 5.0 | −8.7 | 58.8 | 41.2 |
| 1977 | 1.4 | −7.2 | 13.7 | 53.8 | 46.2 |
| 1978 | 4.1 | 5.4 | 2.6 | 54.5 | 45.5 |
| 1979 | −1.5 | −3.7 | 1.3 | 53.2 | 46.8 |
| 1980 | −10.7 | −15.2 | −5.6 | 50.6 | 49.4 |
| Plan 1981 | .. | .. | .. | .. | .. |
| 1981 | 4.1 | 20.3 | −12.5 | 58.8* | 41.2* |
| Plan 1982 | | | | | |
| *Romania* | | | | | |
| 1976 | 17.4 | 21.7 | 11.7 | 59.1 | 40.9 |
| 1977 | −0.9 | −4.4 | 4.2 | 57.0 | 43.0 |
| 1978 | 3.3 | 0.9 | 6.4 | 55.7 | 44.3 |
| 1979 | 5.5 | 6.1 | 4.7 | 56.0 | 44.0 |
| 1980 | −4.1 | −6.1 | −2.2 | 55.1 | 44.9 |
| Plan 1981 | 9.0[c] | .. | .. | .. | .. |
| 1981 | −0.9 | .. | .. | .. | .. |
| Plan 1982 | 6.8[c] | .. | .. | .. | .. |
| *Soviet Union* | | | | | |
| 1976 | 6.5 | 18.2 | −2.5 | 48.0 | 52.0 |
| 1977 | 4.0 | −1.8 | 9.4 | 45.3 | 54.7 |
| 1978 | 2.7 | 5.0 | 0.8 | 46.3 | 53.7 |
| 1979 | −3.1 | −6.2 | −0.4 | 44.8 | 55.2 |
| 1980 | −2.5 | −3.0 | −2.0 | 44.8 | 55.2 |

TABLE 3.2.1 (*continued*)

| Country and period | Annual percentage change | | | Percentage share of total output | |
|---|---|---|---|---|---|
| | Total | Crop | Animal | Crop | Animal |
| *Soviet Union* (continued) | | | | | |
| Plan 1981 | 11.7 | . . | . . | . . | . . |
| 1981 | −2.0 | . . | . . | . . | . . |
| Plan 1982 | 10.2[d] | . . | . . | . . | . . |
| *Byelorussian SSR* | | | | | |
| 1976 | 6.2 | 12.4 | 1.2 | 46.7 | 53.3 |
| 1977 | −1.6 | −12.1 | 7.5 | 41.7 | 58.3 |
| 1978 | 6.8 | 18.5 | −1.5 | 46.3 | 53.7 |
| 1979 | −5.0 | −8.5 | −2.0 | 44.6 | 55.4 |
| 1980 | −10.4 | −23.5 | 0.1 | 38.7 | 61.3 |
| Plan 1981 | 18.9 | . . | . . | . . | . . |
| 1981 | 9.8 | . . | . . | . . | . . |
| Plan 1982 | 9.3 | . . | . . | . . | . . |
| *Ukrainian SSR* | | | | | |
| 1976 | 10.8 | 26.8 | −1.9 | 50.8 | 49.2 |
| 1977 | 5.2 | −1.3 | 11.9 | 47.7 | 52.3 |
| 1978 | 0.7 | 1.9 | −0.4 | 48.2 | 51.8 |
| 1979 | −6.1 | −9.5 | −2.8 | 46.4 | 53.6 |
| 1980 | −5.2 | −8.8 | −2.2 | 44.7 | 55.3 |
| Plan 1981 | 16.9 | . . | . . | . . | . . |
| 1981 | 1.7 | . . | . . | . . | . . |
| Plan 1982 | | | | | |

*Sources:* National statistics; *CMEA Statistical Yearbooks;* plans and plan-fulfilment reports.

[a] Net output including food processing industry.

[b] Agriculture, forestry and food processing.

[c] Net output

[d] Over average annual output in 1976-1980

followed by a period of very poor weather conditions. Despite the continuing growth of inputs as a whole, delays in commissioning investment projects, shortages of fertilizer, spare parts and transport facilities aggravated losses. The basis for increasing livestock output envisaged in the five-year plan was not achieved. Livestock output increased only by 1.1 per cent annually on average, and there were falls in the absolute level of output in 1979 and 1980 despite increasing fodder imports. In 1981 the trend could not be reversed.

*The future development of agriculture* in the regions as indicated in the five-year plan provisions, will include the following general objectives: to improve agricultural output in quantity and quality; to improve the level of nutrition by meeting the physiological norms laid down for protein, vegetable fats, vitamins and other mineral elements of the human diet;[272] to stabilize agricultural output as a steady and renewable source of raw materials needed in many industrial production processes; to remove the pressure of agriculture on the foreign trade balances by diminishing import needs and expanding export possibilities; to increase the supply of inputs to agriculture in the framework of the whole national economy; and last but not least, to implement experience gained in organization, management and planning during the 1970s.

Thus, countries of the region are stressing the necessity for improving agricultural performance. A common feature of plan targets for the farm sector in all countries is the intensification of the production process, implying improvements in efficiency and the better utilization of resources being seen as essential prerequisites of improved performance. Nonetheless, individual countries have singled out different development orientations. Bulgaria, Hungary and Romania are concentrating efforts on expanding their export potential and to building up stocks. Czechoslovakia and the German Democratic Republic are stressing self-sufficiency and the reduction of agricultural imports. The same may be true for Poland in the period up to 1985 although no plans have been published so far. For the Soviet Union, the problem of achieving stability and avoiding heavy year-to-year fluctuations in output is a central preoccupation, together with the achievement of improvements in output and efficiency. These general targets determine not only overall growth rates but also the structural development of agricultural output—most countries stressing the necessity of aligning crop and animal production by faster development of arable output.

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[272] In some countries of the region the gap is 10 to 30 per cent with respect to several of these items, F. Biro, *Journal of International Agriculture*, Moscow/Berlin, 1/1979.

As can be seen from the text table above, the plans for agricultural output growth rates show considerable variations between countries. Whereas the Soviet Union and Bulgaria are striving to speed up the annual growth rate by at least 1 per cent or more in comparison with performance during 1976–1980, and indeed at rates equal to or exceeding those achieved during 1971–1975, Czechoslovakia plans only a small acceleration in growths is planned in the Germania. However, Romania still projects the highest rate of growth of all countries in the region—similar to the performance achieved during 1976–1980 (4.5–5.0 per cent annually).

*Bulgaria* plans to raise agricultural output by an annual average of 3.4 per cent in 1981–1985. The main task will be the rapid development of grain production and its more economical utilization in animal nutrition. In 1985, the annual output of all grains is expected to reach 10.5–11 million tons. On this basis, the volume and quality of animal production could be developed. Cattle and sheep breeding is to be intensified, especially through grazing in mountain regions. The existing agro-industrial complexes are expected to realize their potential and contribute to the development of private subsidiary farming as an associated element of socialized farming.

*Czechoslovakia* intends to raise gross agricultural output by an annual average of 1.8–2.2 per cent in comparison with 1976–1980. Future development is determined by the need to create a stable fodder base for animal production, and to diminish as far as possible feed imports. This implies structural changes in agricultural production—notably, raising the share of grain and high-yielding or fodder roughage crops in arable output, reducing the share of livestock with high concentrate fodder consumption requirements, and the faster development of cattle breeding.

The *German Democratic Republic* is concentrating its efforts to improve soil fertility in order to raise crop yields, ensure optimum use of domestic fodder supplies and remove existing supply demand imbalances, thereby reducing current high levels of fodder imports. The 1.1 per cent average annual growth rate of production foreseen is moderate—not higher than was achieved in the preceding five-year period. However, it seems to be clear that the already high level of animal livestock production can only be increased through improving efficiency in that sector.

In *Hungary*, a small decrease in gross agricultural production growth compared with average performance in 1976–1980 is planned. It has been stressed that agricultural production should develop on the basis of improved efficiency, and that structural shifts should respond to the demands of foreign markets, in addition to satisfying domestic demand in a balanced manner and at a higher level. Taking into account the targets fixed for crop and animal production, no change in their relative contribution to gross agricultural output will occur.

The development of agricultural production in *Poland* cannot be assessed since medium-term orientations have not yet been published. The proposed economic reform pays great attention to agriculture as the major element in establishing a stable basis for food supplies. Progress will depend heavily on the supply of seeds, fertilizers and equipment including spare parts. But, even under favourable weather conditions for crop production such as in 1981, the rebuilding of the sharply reduced livestock population will take time.

*Romania*, one of the countries of the region with a natural advantage for arable farming, anticipates an increase in gross agricultural production at the same rate as in 1976–1980 (some 4.5–5.0 per cent per year). Priority will be given to the intensive development and modernization of animal husbandry, which is expected to account for about 47 per cent of total production by 1985 (compared with 45.2 per cent in 1980). Besides efforts to improve the efficiency of arable production, therefore, it is clear that the pace of livestock production will accelerate.

For the *Soviet Union*, improvement in the food supply situation is seen as "economically and politically the central problem of the five-year plan 1981–1985".[273] Per capita consumption of livestock products is one of the lowest in the region. Improvements will require a sharp reversal of trends in the use of inputs of all kinds. Over a whole range of indicators, agricultural efficiency has progressed less than other sectors of the economy—despite the allocation of up to 27 per cent of total investment to agriculture and agriculture-related industries during the 1970s. The result has been declining rates of output growth, and the appearance of serious structural imbalances. These have led to increases in total grain imports to an extent equivalent to at least 20–30 per cent of total feed grain requirements, compared with zero at the beginning of the last decade. Efforts during the five-year plan will, in fact, be focused on raising grain production as the basis for the development of agriculture as a whole.

It is planned to raise average gross agricultural product by 13 per cent in 1981–1985 as against the average performance achieved in 1976–1980—the same annual average growth rate (2.5 per cent) as in 1971–1975. Very ambitious plan targets have been set for grain and fodder output to create a stable basis for livestock production—though it is implied that by 1985 its share in total output will slightly fall from the 55.2 per cent recorded in 1980. In addition to the five-year plan provisions, a comprehensive food programme is being drafted covering the whole of the agricultural and food complex.

### (ii) Trends in agricultural inputs and efficiency

All governments of the east European countries were and are increasing emphasis on improved productivity of land and labour, and are channelling significant resources into agriculture. Rapid mechanization through investments in machinery and equipment, better farming technologies, land

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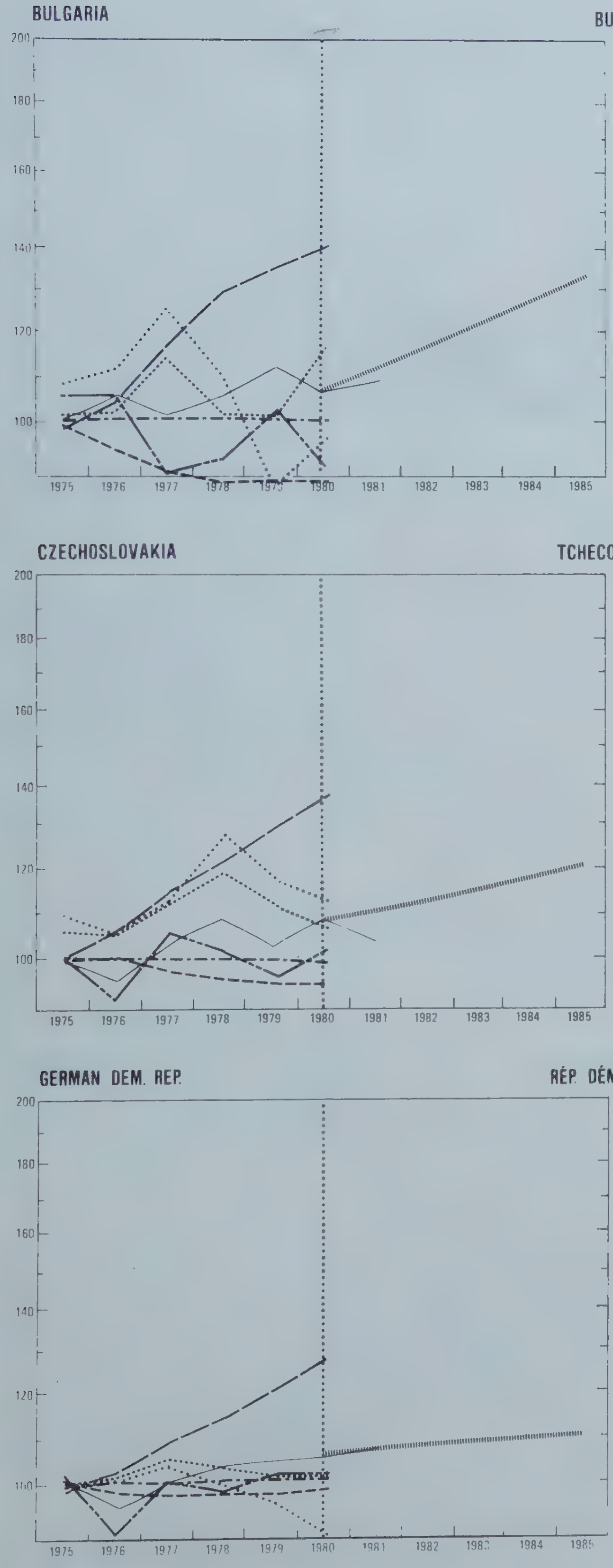
[273] L. I. Brezhnev Speech on the five-year plan final draft to the Central Committee of CPSU, *Pravda*, 17 November 1981.

## Chart 3.2.1

**Agriculture: output and factor inputs**

(*Indices, 1973–1977 = 100*)



## Chart 3.2.2

**Agriculture: efficiency indicators**

(*Indices, 1973–1977 = 100*)

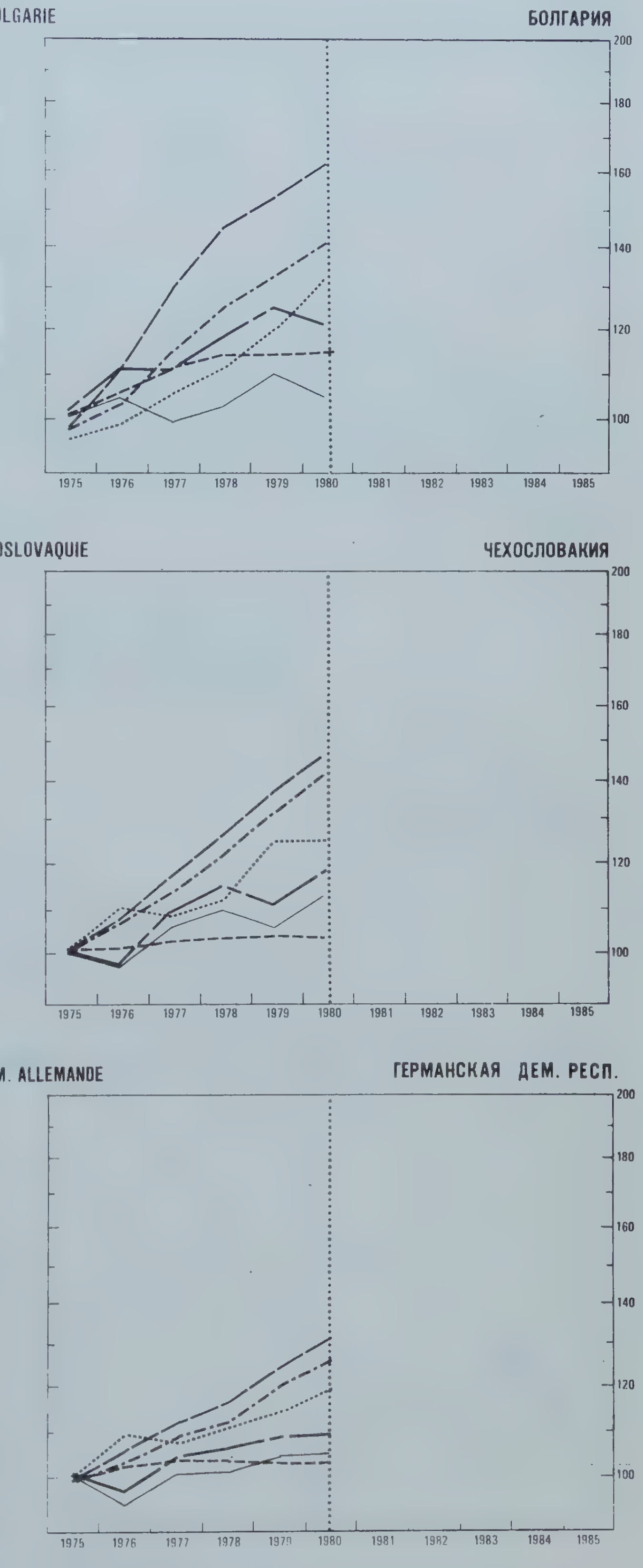


CHART 3.2.1 (*continued*)

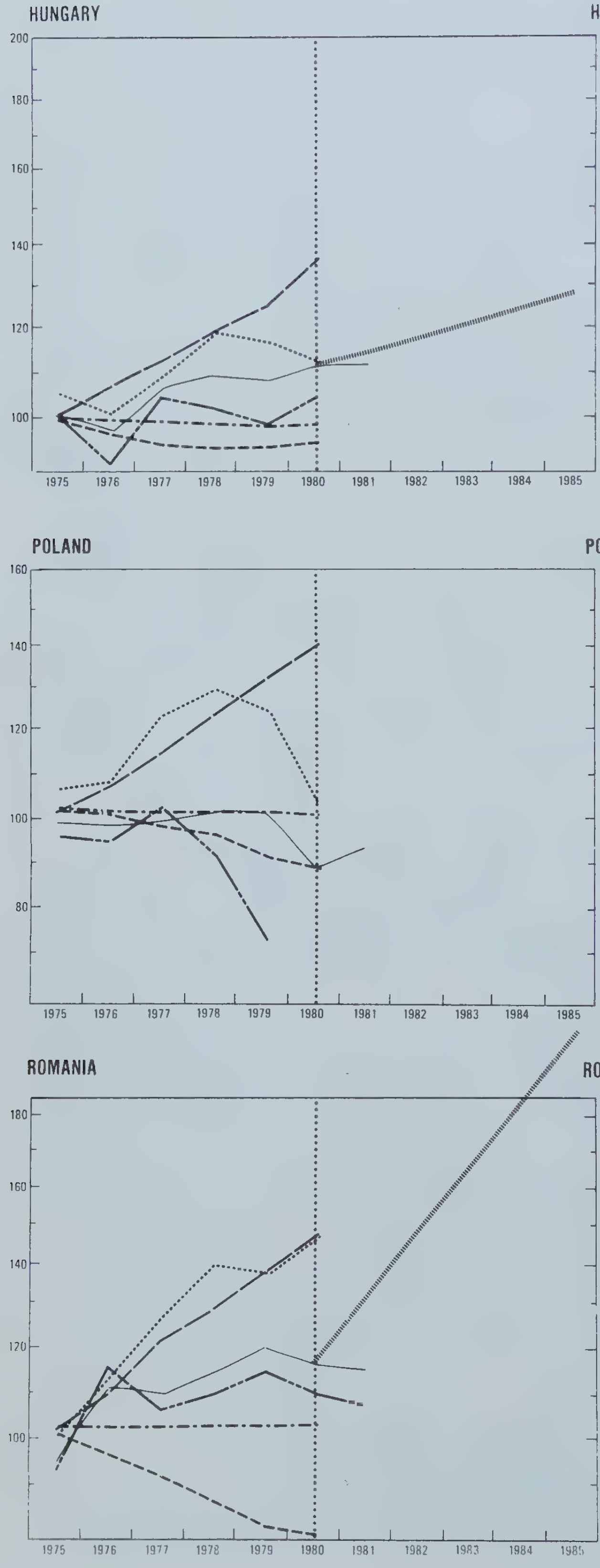


CHART 3.2.2 (*continued*)

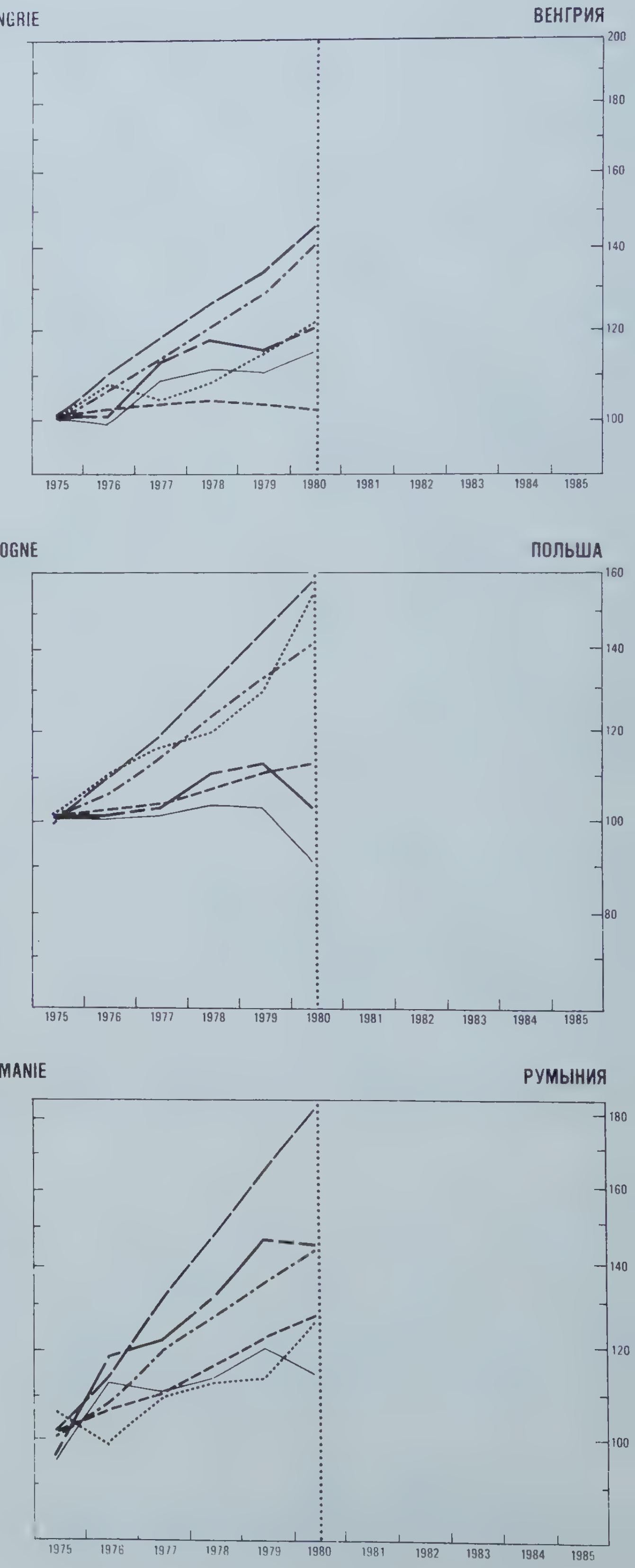


CHART 3.2.1 (*concluded*)

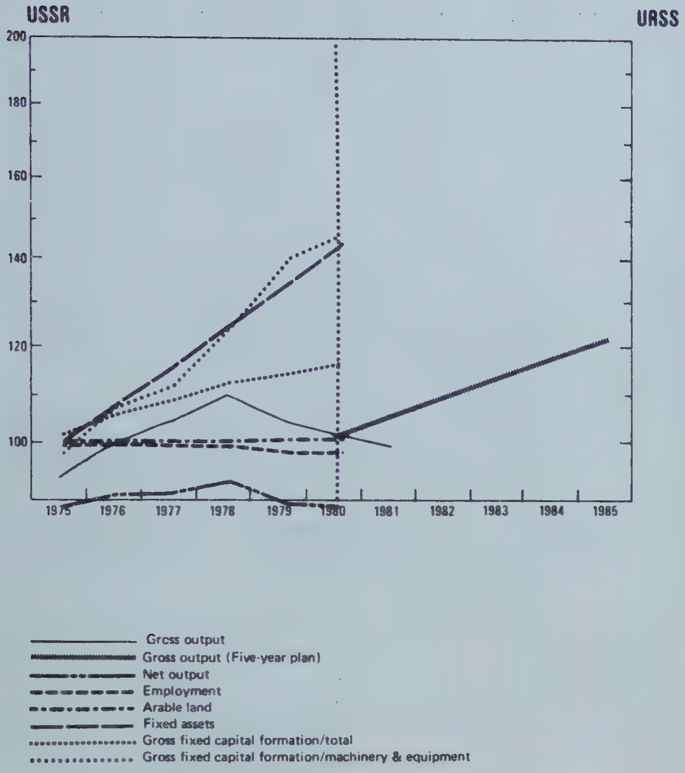


CHART 3.2.2 (*concluded*)

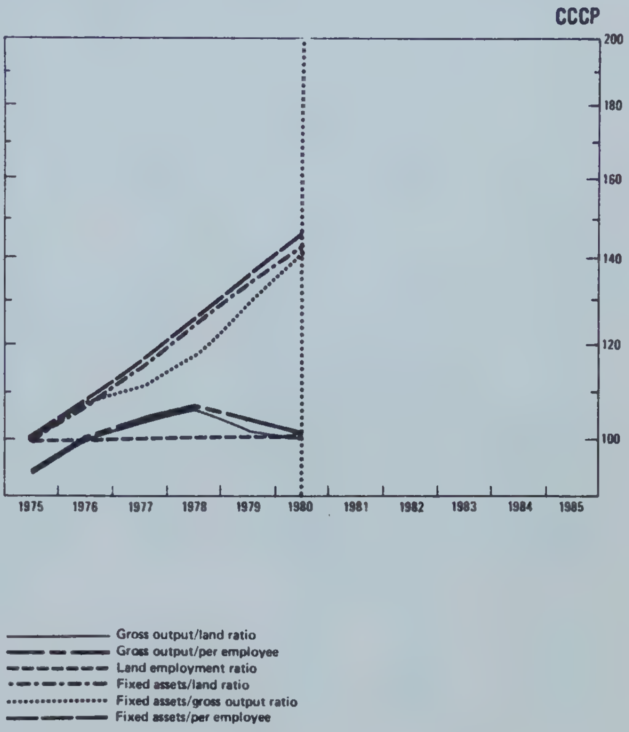


CHART 3.2.3

## Gross agricultural output: total production, crop and animal production

(*Indices, 1973–1977 = 100*)

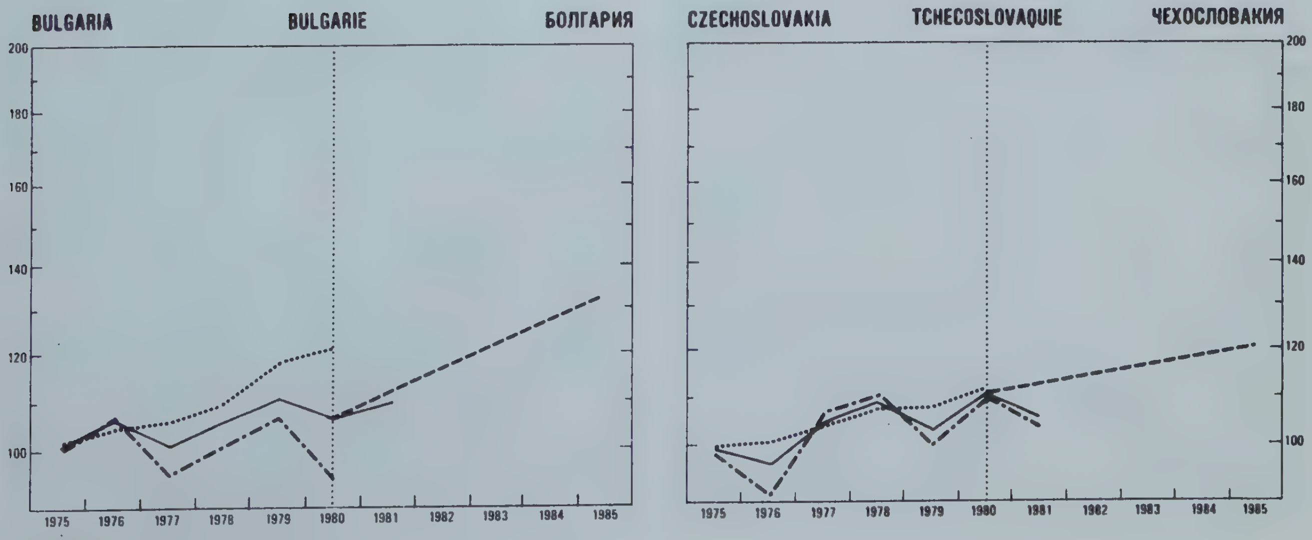


CHART 3.2.3 (*continued*)

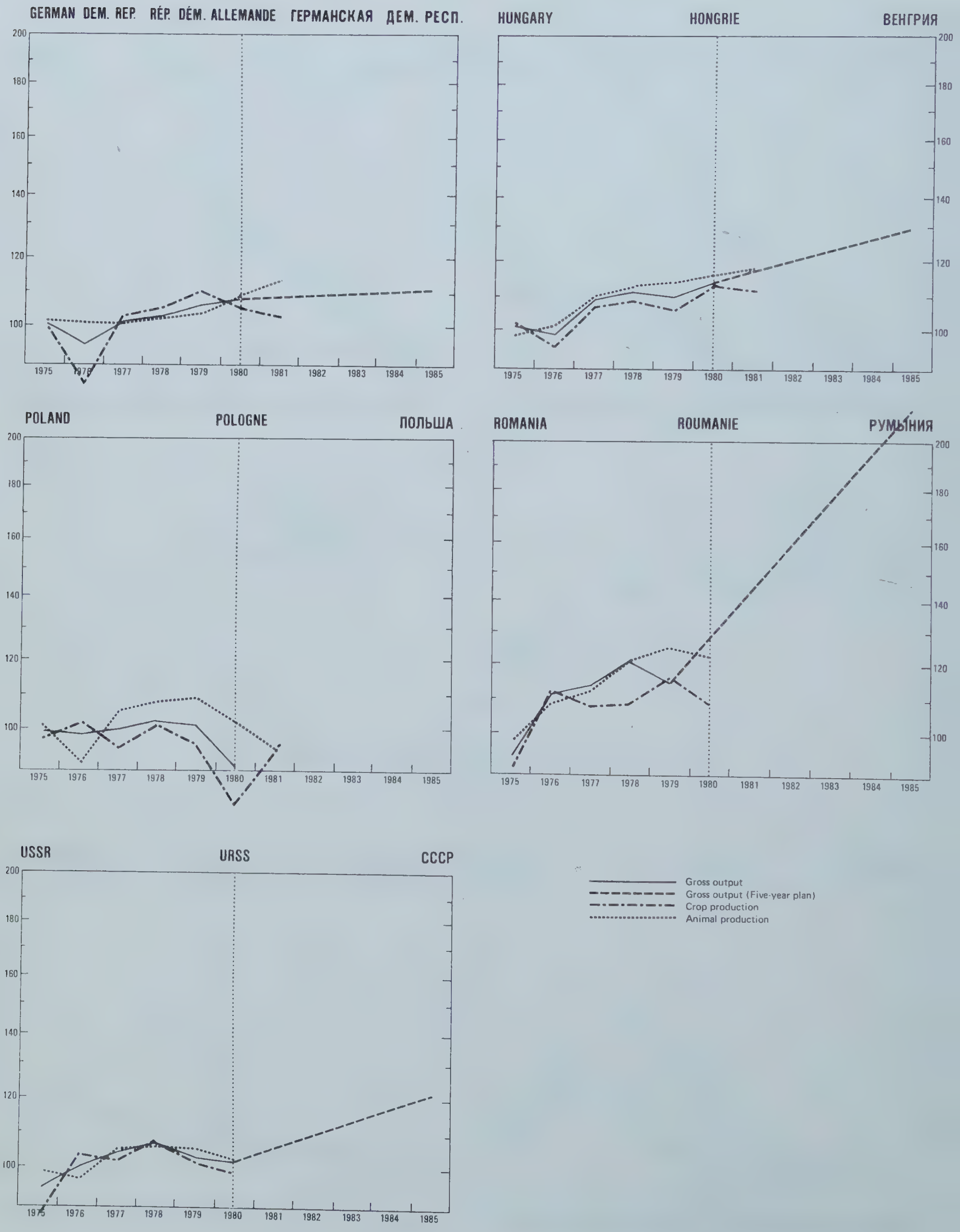


TABLE 3.2.2

**Employment in agriculture**

| Period | *Economically active population in agriculture* | | *Percentage of total economically active population* | *Labour force per 100 hectares of agricultural land* | *Economically active population in agriculture* | | *Percentage of total economically active population* | *Labour force per 100 hectares of agricultural land* |
|---|---|---|---|---|---|---|---|---|
| | *Total (thousands)* | *Annual percentage change* | | | *Total (thousands)* | *Annual percentage change* | | |
| | *Bulgaria* | | | | *Romania* | | | |
| 1976 | 1 130 | −4.9 | 26.2 | 18.2 | 3 670 | −5.0 | 35.8 | 24.5 |
| 1977 | 1 082 | −4.2 | 25.3 | 17.4 | 3 559 | −3.0 | 34.6 | 23.7 |
| 1978 | 1 057 | −2.3 | 24.6 | 17.0 | 3 375 | −5.2 | 32.8 | 22.5 |
| 1979 | 1 056 | −0.1 | 24.4 | 17.0 | 3 203 | −5.1 | 31.0 | 21.4 |
| 1980 | 1 047 | −0.7 | 23.8 | 16.9 | 3 088 | −3.6 | 29.8 | 20.6 |
| | *Czechoslovakia* | | | | *Soviet Union* | | | |
| 1976 | 1 029 | −0.4 | 13.8 | 14.7 | 26 600 | 0.0 | 22.8 | 5.0 |
| 1977 | 1 006 | −2.2 | 13.3 | 14.4 | 26 500 | −0.4 | 21.9 | 4.9 |
| 1978 | 987 | −1.9 | 13.0 | 14.2 | 26 400 | −0.4 | 20.9 | 4.8 |
| 1979 | 980 | −0.7 | 12.8 | 14.2 | 26 220 | −0.7 | 20.6 | 4.7 |
| 1980 | 977 | −0.3 | 12.6 | 14.3 | 26 100 | −0.5 | 20.4 | 4.7 |
| | *German Democratic Republic* | | | | *Byelorussian SSR* | | | |
| 1976 | 826 | −1.8 | 10.3 | 13.1 | 1 314 | −0.2 | 27.0 | 13.4 |
| 1977 | 820 | −0.7 | 10.2 | 13.0 | 1 286 | −2.1 | 26.1 | 13.1 |
| 1978 | 823 | 0.4 | 10.1 | 13.1 | 1 262 | −1.9 | 25.3 | 12.9 |
| 1979 | 822 | −0.1 | 10.0 | 13.1 | 1 243 | −1.6 | 24.6 | 12.8 |
| 1980 | 823 | 0.1 | 10.0 | 13.1 | 1 223 | −1.6 | 24.1 | 12.7 |
| | *Hungary* | | | | *Ukrainian SSR* | | | |
| 1976 | 1 059 | −2.8 | 20.8 | 15.7 | 6 341 | 0.1 | 25.4 | 15.0 |
| 1977 | 1 041 | −1.7 | 20.5 | 15.5 | 6 213 | −2.0 | 24.6 | 14.7 |
| 1978 | 1 028 | −1.2 | 20.3 | 15.3 | 6 123 | −1.4 | 24.1 | 14.5 |
| 1979 | 1 029 | 0.1 | 20.3 | 15.5 | 5 970 | −2.5 | 23.2 | 14.0 |
| 1980 | 1 037 | 0.8 | 20.6 | 15.6 | 5 866 | −1.8 | 22.5 | 13.9 |
| | *Poland* | | | | | | | |
| 1976 | 4 758 | −2.1 | 28.8 | 24.8 | .. | .. | .. | .. |
| 1977 | 4 685 | −1.5 | 28.2 | 24.5 | .. | .. | .. | .. |
| 1978 | 4 574 | −2.4 | 27.5 | 24.0 | .. | .. | .. | .. |
| 1979 | 4 422 | −3.3 | 26.7 | 23.3 | .. | .. | .. | .. |
| 1980 | 4 310 | −2.5 | 26.1 | 22.7 | .. | .. | .. | .. |

*Sources:* As for table 3.2.1.

*Note:* Data includes total number of persons occupied in agriculture: Bulgaria, Czechoslovakia, Hungary, Poland, Romania and the Soviet Union – annual average; German Democratic Republic – census end of September

irrigation, technical education and the development of pre-production facilities and services have helped to improve labour productivity and hence offset decreases in the labour force. But the consumption of factors of production has grown faster than gross output, resulting in higher costs per unit of output and declines or very slow increases in net output, (between −1.5 and 0.8 per cent annually between 1971–1975 and 1976–1980 in eastern Europe except for Romania—3.9 per cent—and 0.2 per cent annually in the Soviet Union). The current five-year plans aim to reverse these unfavourable trends.

The number of *employed in agriculture* fell in all countries of the region. *Romania* and *Bulgaria* have experienced the biggest decline in farm employment, while it was smallest in relative terms in the *Soviet Union*. In most countries, the downward trend moderated during the second half of the decade, but in *Poland*, and *Romania* and the *Soviet Union* it speeded up (table 3.2.2; text table below; and charts 3.2.1 and 3.2.2).

In *Czechoslovakia* and the *German Democratic Republic* a certain stabilization seems to have been achieved, and no notable changes in agricultural employment took place in these countries in 1979–1980. The number of younger farm workers in both countries is, however, increasing slightly and improving the age structure of the labour force.

In *Hungary* the decline in agricultural employment stopped in 1978, since when a slight increase can be observed.

In all countries except Czechoslovakia and the German Democratic Republic, however, a relatively high share of the active population is still employed in agriculture indicating reserves remain for increasing labour productivity (see table 3.2.2).

As a result of the decrease in the growth rates of agricultural output, combined with a less marked reduction in the labour force, growth rates of *labour productivity* fell considerably during the second half

**Agricultural employment and labour productivity**
*(Average annual percentage change)*

| | Employment | | | Labour productivity | | |
|---|---|---|---|---|---|---|
| | 1971–1975 | 1976–1980 | 1971–1980 | 1971–1975 | 1976–1980 | 1971–1980 |
| Bulgaria | −4.1 | −2.6 | −3.3 | 7.3 | 3.6 | 5.4 |
| Czechoslovakia | −2.7 | −1.1 | −1.9 | 5.4 | 3.3 | 4.3 |
| German Dem. Rep. | −2.3 | −0.4 | −1.4 | 5.2 | 1.6 | 3.4 |
| Hungary | −2.8 | −1.6 | −1.9 | 7.6 | 3.5 | 5.5 |
| Poland | −1.4 | −2.4 | −1.9 | 4.7 | 0.7 | 2.7 |
| Romania | −4.5 | −4.9 | −4.7 | 11.5 | 9.2 | 10.3 |
| Soviet Union | −0.2 | −1.2 | −0.7 | 1.0 | 2.8 | 1.9 |

*Sources:* As for table 3.2.1.

of the decade—except the Soviet Union where a 2.8 per cent annual average labour productivity increase reflects mainly reductions of agricultural employment.

In the current five-year plans, no details on development of the labour force or labour productivity in agriculture are given. Nevertheless, the strong emphasis on intensification is intended to result in a fall of inputs per unit of agricultural output. This, together with a reduction in the still relatively large share of agriculture in total employment, will give scope for future growth in labour productivity. Taking into account output targets for the current five-year period, and some further reduction of the labour force, productivity growth of about 4 to 5 per cent annually seems to be envisaged, ranging from around 2 per cent in Czechoslovakia and the German Democratic Republic—where employment is low relative to agricultural area and output growth plans are modest, to a fairly high 5–6 per cent planned annual average increase in Bulgaria, Romania and the Soviet Union.

In the past decade (1970–1980), the area of *agricultural land* in the region as a whole rose slightly (table 3.2.3). This was due to increases in the Soviet Union, Romania and Bulgaria, though the area fell in the other four countries (table 3.2.3). The area of *arable land* followed a similar trend, though the German Democratic Republic also recorded an increase in cropland. All countries were and are trying to reduce the decline in arable land due to the encroachment of industrial and infrastructural projects and by urbanization. They are also attempting to improve the quality of the existing area under cultivation. Despite its very large land area, land improvement has a high policy priority in the Soviet Union.[274]

In April 1981 the CPSU Central Committe and the USSR Council of Ministers issued a further set of comprehensive decisions on the development of agriculture in the non-black earth, and in the central black earth zones of the *Soviet Union*. The decision devoted to the non-black earth zone envisages a 30 per cent increase in gross agricultural production by 1985 compared with the level reached in 1976–1980. This is to be achieved by extensive land reclamation work, the use of chemicals, together with a move towards increasing specialization by agricultural enterprises of the area. It is planned to allocate 40.5 billion roubles of capital investment for this purpose during 1981–1985—20 per cent more than in 1976 and some 20 per cent of total agriculture-related investment over the period. Collective and state farms, which benefited from 11 million ha of newly drained or irrigated land during 1976–1980, will develop a further 1.27 million hectares of drained and irrigated land during 1981–1985.[275]

The decision on the central black soil zone, a region with favourable soil and climatic conditions, stresses the outstanding importance of this area in the Soviet agriculture. Comprehensive programmes will be drafted for the improvement of soil fertility. More than 170 million tons of organic fertilizer will be utilized and 460 million roubles of investments will be spent on land improvement of various kinds. The material-technical basis of the region is to be expanded; 7.1 billion roubles will be allocated for the introduction of technological innovation in the cultivation of maize, sunflowers and sugar beets and also in livestock farming. Agricultural supply services and product storage capacities are to be developed considerably.

By 1985, the area of improved land in the Soviet Union should rise to 36.3 million ha—22 per cent more than in 1980—of which 20.8 million ha irrigated and 15.5 million hectares drained.

In *Bulgaria*, irrigation is also emphasized. The irrigated area in 1980 extended to nearly 1.2 million hectares or 32.4 per cent of arable land. It is planned to irrigate a further 85,000 hectares during 1981–1985 and improvements will be made on 100,000 ha of the existing irrigated area.

In *Czechoslovakia*, the country of the region with the lowest land area per capita after the German Democratic Republic, agricultural investments for

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[274] This argument was put forward by I. Salnikov in *Soviet News*, 31 March 1981: "It should be borne in mind that the territory of the Soviet Union lies mainly in latitudes with harsh soil and climatic conditions. ... Over 60 per cent of the area under crops lies in a zone where the annual precipitation is less than 400 millimetres. This naturally limits the possibility of reaping bumper harvests and necessitates a large-scale programme of irrigation and watering of land. Areas with an annual precipitation rate of 700 millimetres or more, i.e. areas possessing optimum conditions for farming, account for only 1.1 per cent of the arable land."

[275] *Aussenwirtschaft der DDR*, No. 23/81, 3 June 1981.

## TABLE 3.2.3

### Distribution of agricultural land

| Country and period | Agricultural land (thousand hectares) | Arable land | | Land under grain | | | | Land reclamation | |
|---|---|---|---|---|---|---|---|---|---|
| | | Thousand hectares | Hectare per capita | Thousand hectares | Per cent of arable land | of which: Under wheat (thousand hectares) | Per cent of arable land | Irrigated (thousand hectares) | Drained (thousand hectares) |
| *Bulgaria* | | | | | | | | | |
| 1970 | 6010 | 3632 | 0.43 | 2279 | 62.7 | 1014 | 27.9 | 1001 | – |
| 1975 | 5955 | 3699 | 0.42 | 2323 | 62.8 | 912 | 24.7 | 1185 | – |
| 1980 | 6185 | 3700 | 0.42 | 2219 | 60.0 | 968 | 26.2 | 1197 | – |
| Plan 1985 | | | | | | | | 1282 | – |
| *Czechoslovakia* | | | | | | | | | |
| 1970 | 7093 | 4998 | 0.35 | 2671 | 53.4 | 1081 | 21.6 | .. | .. |
| 1975 | 7004 | 4908 | 0.33 | 2834 | 57.7 | 1183 | 24.1 | 23[a] | 73[a] |
| 1980 | 6851 | 4810 | 0.31 | 2741 | 57.0 | 1197 | 24.9 | 17[a] | 52[a] |
| 1981 | | | | | | | | 16[a] | 55[a] |
| Plan 1985 | | | | | | | | 160[b] | 290[b] |
| *German Democratic Republic* | | | | | | | | | |
| 1970 | 6286 | 4618 | 0.27 | 2342 | 50.7 | 598 | 12.9 | 380 | 365 |
| 1975 | 6295 | 4699 | 0.28 | 2562 | 54.5 | 689 | 14.7 | 620 | 447 |
| 1980 | 6269 | 4760 | 0.28 | 2575 | 54.1 | 707 | 14.9 | 899 | 1523 |
| 1981 | | | | | | | | 937 | 1584 |
| *Hungary* | | | | | | | | | |
| 1970 | 6875 | 5189 | 0.50 | 3108 | 59.9 | 1274 | 24.6 | 458 | – |
| 1975 | 6770 | 5126 | 0.49 | 3219 | 62.8 | 1251 | 24.4 | 487 | – |
| 1980 | 6627 | 5026 | 0.47 | 2950 | 58.9 | 1276 | 25.4 | 444 | – |
| *Poland* | | | | | | | | | |
| 1970 | 19543 | 14962 | 0.46 | 8361 | 57.7 | 1985 | 13.3 | 425 | 3870 |
| 1975 | 19209 | 14674 | 0.43 | 8093 | 55.2 | 1842 | 12.6 | 491 | 4514 |
| 1980 | 18947 | 14511 | 0.41 | 8035 | 55.4 | 1609 | 11.1 | 517[a] | 7630[c] |
| *Romania* | | | | | | | | | |
| 1970 | 14930 | 9733 | 0.48 | 6059 | 62.3 | 2366 | 24.3 | 731 | – |
| 1975 | 14946 | 9736 | 0.46 | 6348 | 65.2 | 2386 | 24.5 | 1447 | – |
| 1980 | 14963 | 9824 | 0.44 | 6577 | 66.9 | 2279 | 23.2 | 2300 | – |
| 1981 | ... | .. | ... | .. | .. | .. | .. | 2318 | |
| Plan 1985 | | 10000 | | | | | | 2900 | – |
| *Soviet Union* | | | | | | | | | |
| 1970 | 545778 | 223459 | 0.92 | 119261 | 53.4 | 65230 | 29.2 | 10891 | 8375 |
| 1975 | 548812 | 225462 | 0.89 | 127920 | 56.7 | 61985 | 27.5 | 14241 | 11065 |
| 1980 | 553565 | 226417 | 0.85 | 126608 | 55.9 | 61475 | 27.1 | 17256 | 13693 |
| Plan 1985 | | | | | | | | 20800 | 15500 |
| *Byelorussian SSR* | | | | | | | | | |
| 1970 | 9813 | 6171 | 0.68 | 2505 | 40.6 | 442 | 7.2 | | 1578 |
| 1975 | 9785 | 6128 | 0.65 | 2604 | 42.5 | 196 | 3.2 | 139 | 2041 |
| 1980 | 9646 | 6196 | 0.64 | 3139 | 50.7 | 209 | 3.4 | 163 | 2448 |
| *Ukrainian SSR* | | | | | | | | | |
| 1970 | 42356 | 34116 | 0.72 | 15518 | 45.5 | 6030 | 17.7 | 923 | 1367 |
| 1975 | 42203 | 34259 | 0.70 | 16540 | 48.3 | 7976 | 23.3 | 1484 | 1887 |
| 1980 | 42069 | 34232 | 0.68 | 16473 | 48.1 | 8031 | 23.5 | 2014 | 2378 |

*Sources:* As for table 3.2.1. [a] Annual increase. [b] Increase 1981–1985. [c] 1979.

improving soil fertility have priority. It is planned to irrigate 160,000 hectares and to drain 290,000 hectares between 1980 and 1985. The necessity of land reclamation and other measures to improve soil fertility is underlined by the fact that the area available for agriculture has steadily decreased, especially during the previous five-year period 1976–1980.

The *German Democratic Republic* had only 0.28 hectares of arable land per capita at its disposal in 1980. It is therefore heavily dependent on the success of measures to economize and improve available land. In 1980, irrigation equipment for 49,000 hectares of arable land and pasture was produced and about 62,000 ha. were drained. The irrigated area now covers 15.5 per cent, and the drained area

TABLE 3.2.4

### Investment and fixed assets in agriculture

| | *Investment* | | *Percentage of* | | *Fixed assets* | |
|---|---|---|---|---|---|---|
| *Country and period* | *Total (millions of n.c.u. at constant prices)* | *Annual percentage change* | *Total investment* | *Investment in the material sphere* | *Total (millions of n.c.u. at constant prices)* | *Percentage of total fixed assets in the material sphere* |
| ***Bulgaria*** | | | | | | |
| 1976 | 788 | 0.9 | 14.7 | 19.8 | 6 203 | 18.4 |
| 1977 | 874 | 10.9 | 14.2 | 18.9 | 6 924 | 17.9 |
| 1978 | 787 | −10.0 | 12.7 | 16.9 | 7 600 | 17.3 |
| 1979 | 778 | −1.1 | 12.9 | 17.1 | 7 949 | 16.9 |
| 1980 | 894 | 14.9 | 12.6 | 17.4 | 8 312 | 16.4 |
| 1981 | | | | | | |
| Plan 1982 | | | | | | |
| ***Czechoslovakia*** | | | | | | |
| 1976 | 14 420 | −1.1 | 10.9 | 17.2 | 169 222 | 14.9 |
| 1977 | 15 322 | 6.2 | 11.0 | 17.1 | 180 362 | 14.9 |
| 1978 | 16 295 | 6.3 | 11.2 | 17.4 | 192 590 | 15.0 |
| 1979 | 15 210 | −6.7 | 10.3 | 15.6 | 205 152 | 15.1 |
| 1980 | 14 641 | −3.7 | 9.7 | 14.6 | 217 610 | 15.2 |
| 1981 | | | | | | |
| Plan 1982 | | | | | | |
| ***German Democratic Republic*** | | | | | | |
| 1976 | 5 089 | 2.2 | 11.3 | 14.0 | 50 256 | 12.9 |
| 1977 | 5 301 | 4.2 | 11.1 | 13.9 | 52 670 | 12.9 |
| 1978 | 5 150 | −2.8 | 10.5 | 13.3 | 55 387 | 12.8 |
| 1979 | 5 068 | −1.6 | 10.1 | 12.8 | 58 442 | 12.8 |
| 1980 | 5 050 | −0.4 | 10.0 | 12.6 | 61 500 | 12.7 |
| 1981 | | | | | | |
| Plan 1982 | 5 000* | | | | | |
| ***Hungary*** | | | | | | |
| 1976 | 22 990 | −5.9 | 13.5 | 18.7 | 270 900 | 19.0 |
| 1977 | 25 080 | 9.1 | 13.0 | 17.8 | 286 400 | 18.9 |
| 1978 | 27 360 | 9.1 | 13.5 | 18.3 | 302 800 | 18.8 |
| 1979 | 26 845 | −1.9 | 13.1 | 17.9 | 320 600 | 18.6 |
| 1980 | 23 793 | −11.4 | 12.4 | 17.2 | 349 362 | 19.0 |
| Plan 1981 | | | | | | |
| 1981 | 22 375* | | 12.5* | | | |
| Plan 1982 | | | | | | |
| ***Poland*** | | | | | | |
| 1976 | 93 000 | 1.3 | 14.7 | 18.4 | 1 088 000 | 25.6 |
| 1977 | 105 600 | 13.5 | 16.2 | 20.5 | 1 168 000 | 25.0 |
| 1978 | 110 900 | 5.0 | 16.7 | 21.4 | 1 251 000 | 24.7 |
| 1979 | 106 900 | −3.6 | 17.5 | 23.2 | 1 336 000 | 24.5 |
| 1980 | 88 600 | −17.1 | 16.5 | 22.1 | 1 420 000 | 24.7 |
| Plan 1981 | | | | | | |
| 1981 | | | | | | |
| Plan 1982 | | | | | | |
| ***Romania*** | | | | | | |
| 1976 | 21 868 | 12.2 | 14.4 | 17.9 | 148 401 | 11.2 |
| 1977 | 24 505 | 12.1 | 14.5 | 17.7 | 164 335 | 11.3 |
| 1978 | 27 302 | 11.4 | 13.9 | 16.8 | 176 331 | 11.1 |
| 1979 | 26 833 | −1.7 | 13.1 | 15.9 | 187 404 | 10.9 |
| 1980 | 28 600 | 6.6 | 13.6 | 16.3 | | |
| Plan 1981 | 31 300 | 9.4 | 14.2 | 16.6 | | |
| 1981 | | | | | | |
| Plan 1982 | 42 800 | | | | | |
| ***Soviet Union*** | | | | | | |
| 1976 | 24 266 | 4.2 | 20.6 | 27.8 | 173 500 | 20.7 |
| 1977 | 24 908 | 2.6 | 20.4 | 27.6 | 187 000 | 20.8 |
| 1978 | 25 787 | 3.5 | 19.9 | 26.7 | 201 500 | 20.8 |
| 1979 | 26 344 | 2.2 | 20.2 | 27.0 | 216 000 | 20.8 |
| 1980 | 26 850 | 1.9 | 20.1 | 27.0 | 230 500 | 20.8 |
| 1981 | 37 000[a] | | | | | |
| Plan 1982 | 32 000[a] | | | | | |

TABLE 3.2.4 (*continued*)

| Country and period | Investment: Total (millions of n.c.u. at constant prices) | Investment: Annual percentage change | Investment: Percentage of Total investment | Investment: Percentage of Investment in the material sphere | Fixed assets: Total (millions of n.c.u. at constant prices) | Fixed assets: Percentage of total fixed assets in the material sphere |
|---|---|---|---|---|---|---|
| *Byelorussian SSR* | | | | | | |
| 1976 | 1 055 | −0.3 | 27.0 | 31.5 | 7 400 | 28.5 |
| 1977 | 1 077 | 2.1 | 26.1 | 30.4 | 8 000 | 28.4 |
| 1978 | 1 125 | 4.5 | 26.0 | 30.3 | 8 700 | 28.2 |
| 1979 | 1 131 | 0.5 | 26.2 | 31.2 | 9 300 | 27.8 |
| 1980 | 1 143 | 1.1 | 27.3 | 32.1 | 10 000 | 28.0 |
| 1981 | | | | | | |
| Plan 1982 | | | | | | |
| *Ukrainian SSR* | | | | | | |
| 1976 | 3 895 | 0.6 | 21.9 | 25.2 | 33 500 | 22.9 |
| 1977 | 3 968 | 1.9 | 21.6 | 24.9 | 36 000 | 23.0 |
| 1978 | 4 164 | 4.9 | 21.3 | 24.4 | 38 500 | 23.0 |
| 1979 | 4 058 | −2.6 | 21.3 | 24.5 | 41 000 | 23.0 |
| 1980 | 4 046 | −0.3 | 21.4 | 24.5 | 43 500 | 23.1 |
| 1981 | | | | | | |
| Plan 1982 | | | | | | |

*Sources:* As for table 3.2.1. [a] Total agro-industrial complex.

26.1 per cent, of agricultural land.[276] Quantitative orientations for 1981–1985 are not given in the five-year plan document, but it has been reported that soil fertility shall be improved up to 1985. The utilization of organic substances will increase by at least 20 per cent. Some 60,000 hectares of natural pastures will be improved and used more intensively.[277] These measures will benefit from high priority, given the decline in grain and other yields per hectare recorded in 1976–1980 compared with 1971–1975.

*Hungary* also stresses the preservation and improvement of soil fertility, and a more intensive programme of land improvement. During the five-year plan 1976–1980 around 9 per cent of arable land was irrigated. The Law on the five-year plan 1981–1985 contains a provision for curbing the reduction of cultivated area: Hungary's arable land decreased by more than 3 per cent between 1970 and 1980.

*Poland's* irrigated area in 1979 covered only 517,000 hectares (3.6 per cent of arable land—latest figures are not yet available), but the total reclaimed—mostly drained—area increased from 37.3 per cent of total arable land in 1970 to 43.0 per cent in 1979. On the other hand, the arable land per capita ratio decreased by more than 10 per cent in the last 10 years due partly to fast population growth and partly to losses in arable land of more than 500,000 hectares over the period.

*Romania*, which slightly increased its area of agricultural and arable land year by year during the last decade, will follow the same direction in 1981–1985. More than 150,000 hectares will be added to the area of arable land, which will rise to about 10 million hectares. The area provided with irrigation facilities will rise from 2.3 million hectares in 1980 to 2.9 million hectares in 1985. Emphasis is also placed on drainage, erosion control operations and the improvement of acid soils.

A common feature in all countries of the region during 1981–1985 is the greater attention which will be paid to the maintenance and improvement of land and its fertility. This is underlined and supplemented by legal regulations and financial measures in all countries aimed at eliminating the loss of agricultural land to non-agricultural purposes.[278]

*Gross fixed capital formation* in agriculture during 1976–1980 was stepped up by around 30 per cent for the region as a whole compared with investment in 1971–1975. *Romania* heads the list followed by *Poland.* Whereas growth in the *German Democratic Republic* and *Hungary* was far below the average (table 3.2.4 and text table below).

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[276] *Einheit*, 10/1981, p. 1055.

[277] *Neues Deutschland*, 19 June 1981.

[278] As an example, it can be mentioned that the German Democratic Republic Council of Ministers decided on new regulations on land use February 26, 1981. These have been in force since, 1 May 1981. The new regulation provides that any non-agricultural use of land must have the consent of the State. Land use levies will be used by the State (up to 400,000 marks for one hectare) to make the remaining area more productive. In this way, more than 50,000 hectares of land previously used for mining has now been reclaimed as a result of substantial state investment; about one third of it is used for crop farming and the rest for forestry or water supply. *Sozialistische Finanzwirtschaft 1981*, 1/1981 p. 22.

### TABLE 3.2.5

### Stocks and deliveries of agricultural machinery

*(Thousand machines)*

| | *Stocks of tractors* | | | | *Deliveries* | |
|---|---|---|---|---|---|---|
| *Country and period* | *Physical units* | *Motor h.p. (in million h.p.)* | *Agricultural land in hectares per tractor (physical units)* | *Motor h.p. per 100 hectares of arable land* | *Tractors* | *Grain combines* |
| ***Bulgaria*** | | | | | | |
| 1976 . . . . . . . . | 65.5 | 3.5 | 95 | 95 | 6.2 | 1.1 |
| 1977 . . . . . . . . | 65.0 | 3.7 | 96 | 99 | 6.7 | 1.5 |
| 1978 . . . . . . . . | 64.4 | 3.8 | 97 | 102 | 3.7 | 1.0 |
| 1979 . . . . . . . . | 63.4 | 3.9 | 98 | 105 | 3.6 | 0.8 |
| 1980 . . . . . . . . | 62.0 | 4.0 | 100 | 106 | 3.9 | 0.6 |
| ***Czechoslovakia*** | | | | | | |
| 1976 . . . . . . . . | 141.1 | 7.9 | 49 | 161 | 6.1 | 2.1 |
| 1977 . . . . . . . . | 140.0 | 8.1 | 50 | 165 | 7.7 | 2.1 |
| 1978 . . . . . . . . | 140.0 | 8.4 | 50 | 172 | 8.9 | 1.2 |
| 1979 . . . . . . . . | 138.0 | 8.6 | 50 | 177 | 7.5 | 1.3 |
| 1980 . . . . . . . . | 136.7 | 8.8 | 50 | 182 | 6.3 | 1.4 |
| ***German Democratic Republic*** | | | | | | |
| 1976 . . . . . . . . | 137.7 | 7.7 | 46 | 162 | 8.5 | 1.6 |
| 1977 . . . . . . . . | 137.4 | 7.9 | 46 | 166 | 9.3 | 0.9 |
| 1978 . . . . . . . . | 139.5 | 8.4 | 45 | 176 | 8.5 | 0.4 |
| 1979 . . . . . . . . | 142.6 | 8.9 | 44 | 187 | 8.3 | 0.3 |
| 1980 . . . . . . . . | 144.5 | 9.3 | 43 | 195 | 6.0 | 0.5 |
| ***Hungary*** | | | | | | |
| 1976 . . . . . . . . | 59.5 | 3.6 | 114 | 70 | 5.0 | 2.1 |
| 1977 . . . . . . . . | 58.7 | 3.7 | 116 | 73 | 4.7 | 2.0 |
| 1978 . . . . . . . . | 56.3 | 3.8 | 119 | 75 | 4.2 | 2.2 |
| 1979 . . . . . . . . | 55.4 | 3.9 | 120 | 77 | 4.7 | 1.5 |
| 1980 . . . . . . . . | 55.5 | 4.1 | 119 | 82 | 4.5 | 1.1 |
| ***Poland*** | | | | | | |
| 1976 . . . . . . . . | 444.0 | 16.0 | 43 | 110 | 44.4 | 3.6 |
| 1977 . . . . . . . . | 482.0 | 17.7 | 40 | 122 | 53.7 | 3.8 |
| 1978 . . . . . . . . | 525.0 | 19.4 | 36 | 133 | 58.5 | 4.0 |
| 1979 . . . . . . . . | 599.0 | 23.2 | 32 | 160 | 58.4 | 4.5 |
| 1980 . . . . . . . . | 620.0 | 25.6 | 31 | 176 | 59.9 | 4.5 |
| ***Romania*** | | | | | | |
| 1976 . . . . . . . . | 128.0 | 7.9 | 117 | 81 | 11.9 | 5.6 |
| 1977 . . . . . . . . | 138.5 | 8.6 | 108 | 88 | 13.1 | 4.7 |
| 1978 . . . . . . . . | 138.8 | 8.7 | 107 | 89 | 14.8 | 3.7 |
| 1979 . . . . . . . . | 140.0 | 8.9 | 107 | 90 | 14.5 | 2.6 |
| 1980 . . . . . . . . | 146.6 | 9.4 | 102 | 95 | 15.3 | 4.6 |
| ***Soviet Union*** | | | | | | |
| 1976 . . . . . . . . | 2 400 | 162.7 | 230 | 73 | 368.6 | 97.5 |
| 1977 . . . . . . . . | 2 458 | 170.9 | 225 | 77 | 364.6 | 100.8 |
| 1978 . . . . . . . . | 2 515 | 179.1 | 220 | 80 | 370.6 | 111.2 |
| 1979 . . . . . . . . | 2 540 | 185.6 | 218 | 82 | 354.8 | 112.0 |
| 1980 . . . . . . . . | 2 562 | 191.5 | 216 | 85 | 347.6 | 117.5 |
| 1981 . . . . . . . . | | | | | 352.0 | 105.0 |
| ***Byelorussian SSR*** | | | | | | |
| 1976 . . . . . . . . | 105.9 | 5.9 | 92 | 96 | 15.4 | 3.9 |
| 1977 . . . . . . . . | 109.0 | 6.3 | 90 | 102 | 15.4 | 3.5 |
| 1978 . . . . . . . . | 112.3 | 6.7 | 87 | 108 | 17.4 | 3.8 |
| 1979 . . . . . . . . | 115.2 | 7.2 | 83 | 116 | 15.8 | 4.0 |
| 1980 . . . . . . . . | 117.2 | 7.6 | 82 | 123 | 15.0 | 4.1 |
| 1981 . . . . . . . . | | | | | 14.8 | 3.9 |
| ***Ukrainian SSR*** | | | | | | |
| 1976 . . . . . . . . | 382.9 | 24.8 | 110 | 72 | 53.7 | 15.2 |
| 1977 . . . . . . . . | 391.0 | 26.0 | 108 | 76 | 54.4 | 11.8 |
| 1978 . . . . . . . . | 399.4 | 27.2 | 105 | 79 | 53.7 | 14.1 |

TABLE 3.2.5 (*continued*)

| *Country and period* | *Stocks of tractors:* *Physical units* | *Motor h.p. (in million h.p.)* | *Agricultural land in hectares per tractor (physical units)* | *Motor h.p. per 100 hectares of arable land* | *Deliveries:* *Tractors* | *Grain combines* |
|---|---|---|---|---|---|---|
| *Ukrainian SSR* (continued) | | | | | | |
| 1979 . . . . . . . . | 403.7 | 28.3 | 104 | 83 | 52.0 | 13.9 |
| 1980 . . . . . . . . | 408.8 | 29.4 | 103 | 86 | 49.5 | 12.8 |
| 1981 . . . . . . . . | | | | | 51.0 | 12.0 |

*Sources:* As for table 3.2.1.

**Changes in investment volumes 1976–1980**
(*Indices: 1971–1975 = 100*)

| | *Total* | *Machinery and equipment* |
|---|---|---|
| Bulgaria . . . . . . . . . . | 123.9 | 139.6 |
| Czechoslovakia . . . . . . . . | 131.2 | 156.9 |
| German Democratic Republic . . | 110.8 | 104.3 |
| Hungary . . . . . . . . . . | 115.3 | . . |
| Poland . . . . . . . . . . . | 145.9 | . . |
| Romania . . . . . . . . . . | 155.0 | . . |
| Soviet Union . . . . . . . . . | 129.3 | 152.8 |

*Sources:* As for table 3.2.1.

In *Bulgaria, Czechoslovakia* and the *Soviet Union*, expenditures on machinery and equipment rose considerably faster than total investment. On the basis of motor h.p. per 100 hectares, Czechoslovakia has now the second most highly mechanized agriculture in the region, after the German Democratic Republic. The other countries are still far behind this level. In the *German Democratic Republic*, even taking into account the high degree of mechanization, the small rate of increases in machinery and equipment is noteworthy. Construction work still continues to account for a high share of total investment in the sector.

The share of agricultural investments in total gross fixed capital formation showed slightly decreasing tendencies except in the Soviet Union. Large year-to-year fluctuations in many countries were also reported during 1976–1980, which seems to be related to over-long gestation periods, and other operational and organizational short-comings. On the whole, high capital inputs considerably increased the level of mechanization of agricultural work. In most countries grain, sunflower, sugar-beet and potato production in socialized farms is now highly mechanized. The degree of mechanization in special crops and animal production is still lower.

The *stock of fixed assets* (text table below and tables 3.2.4 and 3.2.5) rose faster in 1976–1980 than in 1971–1975 in most countries. In Hungary, however, the average growth rate fell from 8.5 per cent annually to 6.6 per cent and in the Soviet Union from 9.6 per cent to a still high 7.6 per cent. This is still the second highest increase, after Romania, during 1976–1980. In the German Democratic Republic the stock of fixed assets grew at nearly unchanged rates—by around 5 per cent annually in 1976–1980. Whereas the trend in *machinery and equipment* in Bulgaria, Hungary and Poland followed the trend in total fixed assets, in Czechoslovakia already by 1975 a relatively high level in mechanization had been reached.

The slight decrease in investment growth in most of the countries during the previous five-year period was accompanied by decreasing *shares of agriculture in total investment* and in investments in the material sphere—except in Poland, where an increasing share was for allocations to agriculture registered, and in

**Changes in agricultural fixed assets**
(*Average annual percentage change*)

| *Total* | *Bulgaria* | *Czecho-slovakia* | *German Dem. Rep.* | *Hungary* | *Poland* | *Romania* | *Soviet Union* |
|---|---|---|---|---|---|---|---|
| *Total* | | | | | | | |
| 1971–1975 . . . | 6.6 | 5.9 | 5.0 | 8.5 | 4.8 | 7.5 | 9.6 |
| 1976–1980 . . . | 7.5 | 6.7 | 5.1 | 6.6 | 6.9 | 8.7 | 7.6 |
| *Machinery, equipment* | | | | | | | |
| 1971–1975 . . . | 5.3 | 9.0 | 5.3 | 15.4 | 8.9 | . . | . . |
| 1976–1980 . . . | 5.4 | 7.9 | . . | 10.5[a] | 18.2[a] | . . | . . |

*Sources:* As for table 3.2.1. [a] 1976-1979.

**Changes in capital intensity and efficiency**
*(Indices: 1968-1972 = 100)*

| | Bulgaria | Czecho-slovakia | German Dem. Rep. | Hungary | Poland | Romania | Soviet Union |
|---|---|---|---|---|---|---|---|
| | | | *A. Fixed assets per hectares of arable land* | | | | |
| 1970 . . . . . . . . | 100.3 | 99.6 | 99.6 | 97.7 | 100.3 | 97.9 | 98.0 |
| 1975 . . . . . . . . | 135.8 | 135.0 | 123.7 | 148.9 | 129.3 | 154.0 | 154.0 |
| 1980 . . . . . . . . | 194.2 | 190.8 | 158.5 | 209.3 | 182.6 | 221.4 | 221.3 |
| | | | *B. Fixed assets per employee* | | | | |
| 1970 . . . . . . . . | 100.2 | 98.4 | 99.5 | 97.1 | 100.6 | 97.2 | 101.2 |
| 1975 . . . . . . . . | 170.0 | 150.0 | 142.8 | 168.4 | 136.6 | 192.6 | 160.8 |
| 1980 . . . . . . . . | 277.8 | 219.6 | 187.5 | 243.7 | 214.7 | 359.9 | 249.0 |
| | | | *C. Fixed assets – gross output ratio* | | | | |
| 1970 . . . . . . . . | 100.2 | 101.0 | 101.4 | 102.2 | 103.8 | 108.7 | 94.4 |
| 1975 . . . . . . . . | 119.5 | 118.4 | 112.9 | 122.7 | 111.4 | 125.0 | 143.7 |
| 1980 . . . . . . . . | 164.1 | 147.6 | 136.6 | 149.8 | 169.4 | 149.2 | 193.1 |

*Sources:* As for table 3.2.1.

the Soviet Union where no change took place. The share of fixed assets in agriculture in fixed assets in the material sphere of the respective country fell in Bulgaria, Poland (despite an increasing share in total investment) and in Romania. It was more or less stable in the remaining countries. The relatively high rates of growth of capital inputs rapidly raised the *capital intensity* per ha of arable land and per employee. The process accelerated in 1976–1980 in comparison with 1971–1975 (see text table above), partly due to the decrease in the labour force. The fixed assets to gross output ratio also accelerated, but the rapid increase between 1975 and 1980 clearly shows that output development could not keep pace—every country suffered from disappointing performance in at least two years of this period—and that high rates of increase in inputs were unbalanced and failed to pay off in the form of increasing labour productivity or land yields. Clearly, costs per unit of output rose considerably and the overall efficiency of agricultural production decreased. This fact cannot be ignored whatever the socio-economic grounds for it might be.

Trends in agricultural investments are difficult to assess for the period 1981–1985. Some countries did not give a breakdown of the total amount by sectors. Others did not explain the price basis of published absolute data in their plan documents. For this reason, errors in analysis and assessment cannot be excluded.

All countries in the region are facing up to acute energy and raw material problems. The generally increasing price trend on world markets, to which all countries of the region are more or less closely linked, strengthens the similar trends within the CMEA market area itself. The negative trends in the relationship between net and gross output, outlined above, and the increasing costs per unit of output are forcing all countries to place intensification at the centre of their agricultural as well as their overall economic strategy for 1981–1985. On the other hand, the rapid increase in capital intensity over the last decade which seems to be not yet fully used does give a foundation for improvement in the future.

While decreasing or stagnating growth rates in agricultural investments are projected for the five-year period 1981–1985, this is not paralleled by any decrease in the share of investment. In *Bulgaria*, the annual average increase of total investments is fixed at 2.7 per cent. Taking into account developments up to 1980, it cannot be expected that agricultural investment will rise faster than in the economy as a whole. In this case, the share would stabilize at around 12.5 per cent of total investment. For *Czechoslovakia* no quantitative data are available. For the total economy it has been announced that the annual volume of total investment will not rise beyond 1980 levels. Therefore, stagnating or slightly decreasing growth rates in agricultural investments can be expected. Investment to increase soil fertility will take priority. Deliveries of 35,000 tractors are planned for replacement of old ones and for the extension of the machine stock.

In the *German Democratic Republic* no increase in agricultural investment in absolute terms can be expected until 1985. The volume is likely to stabilize at about 5 billion marks—that is a stagnating or slightly decreasing share in total investments. At the centre of the investment effort, plant production, especially measures for increasing soil fertility and the solutions of storage problems for grain, non-grain and fodder crops, will take first place. The excessive share of construction work in agricultural investments (61.2 per cent in 1980) will be reduced step by step.

In *Hungary*, 12.5 per cent of total investments are planned for agriculture during 1981–1985, in line with the share achieved in 1980. Taking into account the range of values given in the five-year plan, average annual increases of between 0.5 per cent and 1.0 per cent can be expected. Stress is placed on complex mechanization, energy-saving technologies and the updating of the technical basis of agriculture.

**Deliveries of machinery and equipment in agriculture in the Soviet Union**

| | *Units* | | | *(Indices, previous five-year period = 100)* | |
|---|---|---|---|---|---|
| | *1971–1975* | *1976–1980* | *1981–1985* | *1976–1980* | *1981–1985* |
| Tractors (thousands) | 1 700 | 1 820 | 1 870 | 107 | 102.7 |
| Capacity (million h.p.) | 119 | 150 | 18[illegible] | 126 | 121.3 |
| Lorries (thousands) | 1 100 | 1 350 | 1 450 | 122.7 | 107.4 |
| Capacity (in thousands) | 3 458 | 4 866 | 6 950 | 140.7 | 142.8 |
| Grain combines (thousands) | 449 | 538.9 | 600 | 120 | 111.3 |
| Capacity (1000 kg/second) | 2 099 | 2 365 | 3 682 | 136 | 128.5 |

**Energetic potential in agriculture in the Soviet Union**

(*Million h.p.*)

| | *1960* | *1965* | *1970* | *1975* | *1980* | *1985* |
|---|---|---|---|---|---|---|
| Total | 152.8 | 231.7 | 322.0 | 457.4 | 609.0 | 900.0 |
| *of which:* | | | | | | |
| Tractors | 50.3 | 84.9 | 121.8 | 169.9 | 216.8 | 287.3 |
| Combines | 24.7 | 35.6 | 46.1 | 59.1 | 76.0 | 120.0 |
| Lorries | 63.2 | 81.9 | 103.6 | 131.6 | 170.0 | 262.0 |
| Electrical installations | 7.2 | 19.3 | 40.7 | 85.4 | 130.0 | 167.0 |
| Growth total | – | 78.9 | 90.0 | 135.4 | 151.6 | 320.7 |
| *of which:* | | | | | | |
| Per employee | 5.4 | 7.7 | 11.2 | 16.8 | 25.4 | 39.0 |
| Per 100 ha | 74.0 | 100.0 | 148.0 | 190.0 | 280.0 | 395.0 |

*Source:* B. Ponomanjov in *Planovoe Khozvavstvo*, 1981, No. 9

In *Romania*, agricultural investment during the five-year period 1981–1985 will rise faster than in the total economy. According to the published data, an average annual increase of 6.8 per cent is planned—somewhat higher than the 5.2 per cent planned for the total economy. This will raise agriculture's share in total investment from 14.2 per cent in 1980 to an average of 14.9 per cent in 1981–1985 (food industry included). Land improvement and mechanization are the main allocation priorities.

In the *Soviet Union*, the total volume of investments in 1981–1985 will increase by 10.4 per cent or by 2.0 per cent annually on average compared with 1976–1980. Agricultural investment will rise 0.5 per cent faster, but growth rates will be lower than on average during 1976–1980. For the whole agro-industrial complex a share of 27 per cent of the total investment in the national economy is planned, equal to that during the period 1976–1980. It might be noted that investment in the agro-industrial complex will be about 44 per cent higher than the volume of investment allocations envisaged for energy and fuel. As stressed in the plan discussions and associated documents, large amounts will be allocated for the implementation of the complex food programme, which will embrace regional production specialization, agricultural supply and processing branches in the industrial sector, infrastructural measures, new storage capacities and further mechanization of plant and animal production. Farm machinery will be provided to a value of 30 billion roubles. This should considerably increase the degree of mechanization and boost the introduction of labour saving production methods in Soviet agriculture. The above text tables give detailed information about the industrial basis of Soviet agriculture in 1971–1980 and 1981–1985.

Along with mechanization, the use of *chemical fertilizers* is an essential factor for increasing yields and improving agricultural productivity. During 1976–1980, *Czechoslovakia, the German Democratic Republic, Hungary* and *Poland* were the most intensive users of fertilizer per hectare of agricultural land—with respective annual consumptions of an average of 350, 357, 290 and 250 kg per hectare (table 3.2.6). It seems that in the case of Czechoslovakia and the German Democratic Republic upper limits imposed by climatic and soil conditions have been reached, and that more efficient, rather than increased, application is now being stressed. *Bulgaria* increased fertilizer consumption considerably, applications having currently reached 224 kg per hectare. *Romania and the Soviet Union* are still far behind this level, indicating that important reserves for increasing arable yields still exist—even taking into account that climatic and soil conditions in the Soviet Union limit the use of fertilizers in some regions.[279]

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[279] In general, available moisture determines the area where fertilizer can be used most effectively. As fertilizer applications increase, the moisture required to secure full benefits also increases. Application of fertilizer in dry land farming is usually counter-productive. In these dry land areas, the restoration of soil fertility and the retention of moisture depends largely on the setting aside of fallow areas. The area of fallow land in the Soviet Union fell from 18.4 million hectares in 1970 to 11.2 million hectares in 1975—but rose to 13.8 million hectares in 1980.

In the east European countries taken together the total consumption of fertilizers rose by only 1.3 per cent between 1975 and 1980, due to the falling share of the sown area in total arable land in some countries and slightly smaller fertilizer applications per hectare in the German Democratic Republic, Hungary and Romania in 1980. The Soviet Union increased the total of fertilizer consumption by around 8.8 per cent during this period.

As can be seen from the following text table, output of fertilizer in the region rose faster than consumption.

**Mineral fertilizers: production and consumption**
(*Thousand tons, nutrient content*)

| | *East European countries* | *Soviet Union* | *East European countries and the Soviet Union* |
|---|---|---|---|
| Production | | | |
| 1975 | 10 683 | 21 998 | 32 681 |
| 1980 | 12 355 | 24 767 | 37 122 |
| Domestic consumption | | | |
| 1975 | 10 284 | 17 251 | 27 535 |
| 1980 | 10 416 | 18 763 | 29 179 |
| Balance | | | |
| 1975 | 399 | 4 747 | 5 146 |
| 1980 | 1 939 | 6 004 | 7 943 |

*Source: CMEA Statistical Yearbook 1981*, p. 239.

Nevertheless Bulgaria, Czechoslovakia, Hungary and Poland are still net importers in spite of increasing output in recent years. The ratio of production growth rates to consumption growth rates by countries between 1975 and 1980 shows the following picture:

| *Bulgaria* | *Czecho-slovakia* | *German Dem. Rep.* | *Hungary* | *Poland* | *Romania* | *Soviet Union* |
|---|---|---|---|---|---|---|
| 0.85 | 1.08 | 1.33 | 1.61 | 0.83 | 1.43 | 1.04 |

Strong efforts are needed, especially in Bulgaria and Poland, to reverse the increasing shortfall between supply and demand during 1976–1980. An extension of production capacities for mineral fertilizers is planned in the region. In *Bulgaria*, the output of fertilizers will nearly double by 1985 compared with 1980. With around 1,250,000 tons of output, the level of fertilizer application per hectare of arable land could be raised to approximately 330–340 kg. A smaller increase is foreseen in *Czechoslovakia*. Output will rise by only 8–10 per cent until 1985—similar to the *German Democratic Republic*, where changes in the composition of output (higher shares of granulated potash fertilizer instead of powder) and efficient application are stressed more than raising production and consumption. In *Hungary*, no data are given for output and consumption levels up to 1985 but the five-year plan 1981–1985 calls for continuous improvements in the utilization of fertilizers. In 1982 a 10 per cent increase in consumption is foreseen. Ambitious five-year-plan targets are set in *Romania*. The total output of chemical fertilizers is expected to achieve 4,050,000 tons in 1985 (1980: 2,451,000 tons) and fertilizer deliveries to agriculture will amount to 11.6 million tons within the period 1981–1985. This will permit application rates to rise from 131.5 kg per hectare of arable land to 232 kg. The *Soviet Union* has also retained high plan targets. Output is planned to increase by almost 50 per cent compared with 1980. In 1985, production could allow the application of 117 kg (nutrient content) to be applied on average per hectare of arable land—besides increasing export possibilities.

All countries in the region stress the necessity of improving the quality of mineral fertilizers. This includes: higher nutrient content per ton, lower transport and application costs; more granular fertilizers, which are easier to apply than powders; last but not least the production of complex fertilizers containing optimal ratios of nitrogen, phosphorus and potassium for specific crops and climatic zones. It is also planned to produce more liquid chemical fertilizers, since they are less energy-intensive and lead to lower nutrient losses.[280] Besides that, more attention is paid to the application of organic fertilizers (manure and compost) because

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[280] *Economicheskaya Gazeta*, 1981–I, No. 3.

TABLE 3.2.6

**Supplies of chemical fertilizers and plant protection chemicals and consumption of electricity in agriculture**

| | *Fertilizer supplies (in pure nutrient content)* | | *Supplies of plant protection chemicals* | | *Consumption of electricity in agriculture* | |
|---|---|---|---|---|---|---|
| *Country and period* | *Total (1,000 tons)* | *kg/ha of arable land* | *Total (1,000 tons)* | *kg/ha of arable land* | *Total in GWh* | *KWh per ha of agricultural land* |
| *Bulgaria* | | | | | | |
| 1976 | 658 | 177 | 23.4 | 6.3 | 999 | 161 |
| 1977 | 742 | 199 | 26.3 | 7.1 | 924 | 149 |
| 1978 | 738 | 198 | 35.3 | 9.4 | 988 | 160 |
| 1979 | 820 | 220 | 34.8 | 9.3 | 1 118 | 180 |
| 1980 | 830 | 224 | 40.0 | 10.8 | 1 115 | 180 |
| 1981 | 733* | 198 | .. | .. | .. | .. |

TABLE 3.2.6 (*continued*)

| Country and period | *Fertilizer supplies (in pure nutrient content)* | | *Supplies of plant protection chemicals* | | *Consumption of electricity in agriculture* | |
|---|---|---|---|---|---|---|
| | *Total (1,000 tons)* | *kg/ha of arable land* | *Total (1,000 tons)* | *kg/ha of arable land* | *Total in GWh* | *KWh per ha of agricultural land* |
| *Czechoslovakia* | | | | | | |
| 1976 . . . . . . . . | 1 674 | 341 | . . | . . | 2 473 | 354 |
| 1977 . . . . . . . . | 1 633 | 333 | . . | . . | 2 584 | 370 |
| 1978 . . . . . . . . | 1 748 | 357 | . . | . . | 2 750 | 396 |
| 1979 . . . . . . . . | 1 745 | 360 | . . | . . | 2 639 | 381 |
| 1980 . . . . . . . . | 1 730 | 358 | . . | . . | 2 715 | 396 |
| 1981 . . . . . . . . | 1 700 | 353* | . . | . . | . . | . . |
| *German Democratic Republic* | | | | | | |
| 1976 . . . . . . . . | 1 804 | 380 | 23.7 | 5.0 | 3 500 | 556 |
| 1977 . . . . . . . . | 1 670 | 350 | 24.5 | 5.1 | 3 497 | 556 |
| 1978 . . . . . . . . | 1 670 | 350 | 25.3 | 5.3 | 3 783 | 602 |
| 1979 . . . . . . . . | 1 713 | 359 | 26.7 | 5.6 | 3 799 | 605 |
| 1980 . . . . . . . . | 1 637 | 344 | 27.0 | 5.7 | 3 891 | 621 |
| *Hungary* | | | | | | |
| 1976 . . . . . . . . | 1 388 | 272 | . . | . . | 1 751 | 259 |
| 1977 . . . . . . . . | 1 511 | 298 | . . | . . | 1 888 | 281 |
| 1978 . . . . . . . . | 1 539 | 305 | . . | . . | 2 062 | 308 |
| 1979 . . . . . . . . | 1 502 | 298 | . . | . . | 2 089 | 314 |
| 1980 . . . . . . . . | 1 399 | 278 | . . | . . | 2 095 | 316 |
| *Poland* | | | | | | |
| 1976 . . . . . . . . | 3 671 | 253 | 51.1 | 3.5 | 3 470 | 181 |
| 1977 . . . . . . . . | 3 586 | 246 | 57.1 | 3.9 | 3 958 | 207 |
| 1978 . . . . . . . . | 3 606 | 252 | 49.8 | 3.4 | 4 325 | 227 |
| 1979 . . . . . . . . | 3 567 | 247 | 44.7 | 3.0 | 4 811 | 253 |
| 1980 . . . . . . . . | 3 635 | 251 | . . | . . | 5 360 | 274 |
| 1981 . . . . . . . . | 3 490 | . . | . . | . . | . . | . . |
| *Romania* | | | | | | |
| 1976 . . . . . . . . | 1 144 | 117 | . . | . . | 2 521 | 169 |
| 1977 . . . . . . . . | 1 128 | 115 | . . | . . | 2 481 | 166 |
| 1978 . . . . . . . . | 1 480 | 151 | . . | . . | 2 610 | 174 |
| 1979 . . . . . . . . | 1 431 | 146 | . . | . . | 2 564 | 171 |
| 1980 . . . . . . . . | 1 185 | 121 | . . | . . | 2 821 | 189 |
| Plan 1981 . . . . . | 1 700 | 172 | 51.0 | 5.2 | . . | . . |
| 1981 . . . . . . . . | 1 600 | 162* | . . | . . | . . | . . |
| *Soviet Union* | | | | | | |
| 1976 . . . . . . . . | 17 739 | 79 | . . | . . | 82 979 | 151 |
| 1977 . . . . . . . . | 18 034 | 80 | . . | . . | 88 367 | 160 |
| 1978 . . . . . . . . | 18 420 | 81 | . . | . . | 95 642 | 173 |
| 1979 . . . . . . . . | 17 365 | 77 | . . | . . | 102 301 | 185 |
| 1980 . . . . . . . . | 18 763 | 83 | 512 | 2.3 | 111 000 | 200 |
| Plan 1981 . . . . . | 20 155 | 89 | . . | . . | | |
| 1981 . . . . . . . . | 19 200 | | | | | |
| *Byelorussian SSR* | | | | | | |
| 1976 . . . . . . . . | 1 523 | 263 | . . | . . | 2 624 | 268 |
| 1977 . . . . . . . . | 1 506 | 260 | . . | . . | 2 768 | 283 |
| 1978 . . . . . . . . | 1 528 | 263 | . . | . . | 2 975 | 305 |
| 1979 . . . . . . . . | 1 452 | 250 | . . | . . | 3 121 | 324 |
| 1980 . . . . . . . . | 1 470 | 253 | . . | . . | 3 397 | 352 |
| 1981 . . . . . . . . | 1 600 | | | | | |
| *Ukrainian SSR* | | | | | | |
| 1976 . . . . . . . . | 3 623 | 110 | . . | . . | 15 285 | 362 |
| 1977 . . . . . . . . | 3 725 | 113 | . . | . . | 15 387 | 365 |
| 1978 . . . . . . . . | 3 702 | 112 | . . | . . | 16 681 | 396 |
| 1979 . . . . . . . . | 3 387 | 103 | . . | . . | 17 977 | 427 |
| 1980 . . . . . . . . | 3 713 | 112 | . . | . . | 18 975 | 451 |
| 1981 . . . . . . . . | 3 700 | | | | | |

*Sources:* As for table 3.2.1.

underfulfilment or requirements for lime and organic fertilizers can reduce the benefits obtained from mineral fertilizers.[281]

Closely linked to the problem of rational and efficient application of chemical fertilizers is the problem of *transportation, storage and application technologies.* To eliminate shortcomings in this field, the Central Committee of the CPSU and the Council of Ministers of the Soviet Union put into force a Decree on Measures to Strengthen the Material and Technical Basis of the Agrochemical Service and to Increase the Efficiency of Application of Chemicals in Agriculture during 1981–1985.[282] The decree sets out a number of measures to develop the production basis of the chemical supply service, to bring about a reduction in losses of chemical products during their journey from factory to field and increased returns from their use. In 1981–1985 chemical storage facilities with a total capacity of 9,355,000 tons—considerably more than in 1976–1980—will be built and put into service.

**Output of plant protection chemicals**
(*Thousand tons, active element*)

| | *1970* | *1975* | *1979* | *1980* |
|---|---|---|---|---|
| Bulgaria | 14.6 | 19.0 | 16.9 | . . |
| Czechoslovakia | 10.8 | 13.8 | 16.0 | . . |
| German. Dem. Rep. | 19.8 | 43.4 | 51.2 | . . |
| Hungary | 4.9 | 16.3 | 23.1 | 23.7 |
| Poland | 10.4 | 12.6 | 11.2 | 10.5 |
| Romania | 24.8 | 35.9 | 47.0 | . . |
| Soviet Union | 164.0 | 264.0 | 284.0 | 262.0 |
| Total | 249.3 | 405.0 | 494.4 | 450.0 |

*Source: Aussenwirtschaft der DDR*, No. 33/81.

Whereas in mineral fertilizers on the whole the region is not only self-sufficient but a net exporter, output of *plant protection chemicals* does not cover demand and imports from outside the region are needed. Incomplete data (table 3.2.6) do not allow a full picture but it can be estimated that total consumption in the region was not less than 650,000 tons (pure content) in 1980 compared with an output of about 450,000 tons (see text table above). The fast development of production between 1970 and 1975 by more than 60 per cent slowed down to around 10 per cent between 1975 and 1980. Hungary and Romania increased their production capacities considerably between 1975 and 1980; Czechoslovakia, the German Democratic Republic and the Soviet Union, did so at a slower pace. Falling output was registered in Bulgaria and Poland. On the other hand *Bulgaria* increased the application of plant protection chemicals per ha of arable land considerably, rates being now higher than in other countries of the region. In the current five-year plan, production will be expanded in Czechoslovakia, the German Democratic Republic, Hungary and Romania on the basis of specialization contracts within the framework of the CMEA. The Soviet Union plans to supply its domestic agriculture with 650,000–680,000 tons of plant protection chemicals in 1985.

The *consumption of electricity* showed strong upward trends in all countries during 1976–1980, reflecting increasing mechanization of crop and livestock farming. But this investment also increased the costs of energy per unit of output. In line with the general orientation to save energy and to make its application more efficient, it can be expected that in 1981–1985 the tendency will be probably reversed with the aim of restraining energy consumption increases in line with the growth of output and thus decreasing the energy consumption per unit of output, compared with the period 1976–1980.

### (iii) Trends in crop production

In crop production some structural changes took place during 1976–1980. In fact, they were less marked with regard to the shares of the total area sown to grain as against non-grain crops; the main changes took place within these two sub-sectors of crop production. Whereas in *eastern Europe* on the whole the sown area for grain (including pulses) fell slightly, it increased in the *Soviet Union* by 3.2 per cent in 1976–1980 compared with 1971–1975. In the *German Democratic Republic* the area sown to grain rose by 5.1 per cent and in *Romania* by 3.9 per cent. Virtually no changes took place in *Bulgaria* and *Czechoslovakia.* The reverse trend can be seen in *Hungary* and *Poland,* which decreased their grain area by 6.8 and 4.9 per cent respectively (see text table).

**Sown area, output and yields of grain (including pulses) in eastern Europe and the Soviet Union in 1976–1980**
(*Indices: 1971–1975 = 100*)

| | *Sown area* | *Output* | *Yields per hectare* |
|---|---|---|---|
| Bulgaria | 99.9 | 106.8 | 106.9 |
| Czechoslovakia | 100.1 | 108.0 | 108.9 |
| German Democratic Republic | 105.1 | 104.1 | 99.2 |
| Hungary | 93.2 | 110.7 | 118.9 |
| Poland | 95.1 | 92.8 | 97.6 |
| Romania | 103.9 | 130.1 | 124.9 |
| Eastern Europe | 99.0 | 108.0 | 109.2 |
| Soviet Union | 103.2 | 112.9 | 109.5 |
| Total | 102.4 | 111.5 | 108.4 |

*Source: CMEA Statistical Yearbook 1981.*

The *area under wheat* decreased in eastern Europe during 1976–1980 in comparison with 1971–1975 by 4.3 per cent—mainly due to falls in Poland (12.6 per cent) and Romania (6.8 per cent). Hungary's wheat area fell by 1.4 per cent while in Bulgaria, Czechoslovakia and the German Democratic Republic wheat sowing extended by 0.2, 2.9 and 4.8 per cent respectively. The Soviet Union reduced its wheat area by 1.2 per cent. Trends in the area sown to rye were similar but stronger—falls of about 9 per cent having been registered in the Soviet Union as well as in eastern Europe. These decreases in the wheat and rye areas were more than offset by a rise in the *area sown to barley* which rose by 18.6 per cent in eastern Europe and by 19.9 per cent in the Soviet Union—to an annual average of 38.6 million ha during 1976–1980. *Maize* sowing gained ground in eastern Europe except in the German Democratic Republic. Its area rose by 5.2 per cent despite a decrease in Hungary, where the reduction was offset by increasing yields. The contrary development took place in the Soviet Union, where the maize area fell from an annual average of 3.6 to 3.0 million ha between 1971–1975 and 1976–1980.

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[281] Organic fertilizers improve moisture retention and air circulation in soils and reduce the harmful effects of soil acidity on plant growth; thus application of organic fertilizers tends to enhance the effects of mineral fertilizer.

[282] *Aussenwirtschaft der DDR*, No. 23/81.

*Grain output* in the region increased by 11.5 per cent during 1976–1980 as compared with 1971–1975, of which in the *Soviet Union* by 12.9 per cent and in *eastern Europe* by 8 per cent (table 3.2.7 and text table above). Output rose in all countries except Poland. The greater share of the higher performance was achieved by increasing yields per hectare—especially in *Hungary* which now records the best yields in the region. Considerable progress was made in *Romania*, the shortfall below the east European average existing in 1971–1975 having now been practically eliminated. Output increases in *Bulgaria* and *Czechoslovakia* were achieved almost completely by yield increases. No progress in this respect was registered in the *German Democratic Republic*, where the rise in output was fully due to the extended grain area, the relatively high level of yields already attained in this country remaining roughly constant. In *Poland*, sown areas and yields decreased, reducing output of grain to 92.8 per cent of its average level in 1971–1975. In the *Soviet Union*, two thirds of the output increase of 12.9 per cent was due to higher yields.

Within the *structure of grain output*, wheat and maize are gaining increasing importance, above all in Bulgaria, Hungary and Romania. Barley is favoured increasingly in all countries because of its role as a fodder grain, especially in countries like Czechoslovakia, the German Democratic Republic and the Soviet Union where existing grain maize varieties cannot be efficiently cultivated due to inadequate climatic and soil conditions. Rye is apparently losing its former position, except in the German Democratic Republic and Poland where its share in total grain output also decreased—though it is still the biggest grain crop in those two countries.[283]

A marked characteristic of grain production in the region is the year-to-year output fluctuations, as can be seen from the text table below.

**Fluctuations in grain output 1976–1980**

| | *Annual average output 1976–1980 (million tons)* | *Indices: 1976–1980 = 100* | | | | |
|---|---|---|---|---|---|---|
| | | *1976* | *1977* | *1978* | *1979* | *1980* |
| Bulgaria . . . . . . . . . | 7.98 | 107.4 | 96.1 | 95.1 | 104.8 | 96.6 |
| Czechoslovakia . . . . . . | 10.20 | 90.6 | 102.6 | 109.1 | 91.2 | 106.5 |
| German Democratic Republic . | 9.12 | 90.5 | 96.3 | 108.7 | 98.2 | 106.4 |
| Hungary . . . . . . . . . | 12.76 | 90.0 | 97.4 | 106.0 | 95.5 | 111.0 |
| Poland. . . . . . . . . . | 19.72 | 107.0 | 99.4 | 110.5 | 89.1 | 94.0 |
| Romania . . . . . . . . . | 19.48 | 102.1 | 96.0 | 97.9 | 99.7 | 104.2 |
| Soviet Union . . . . . . | 205.05 | 109.1 | 95.5 | 115.8 | 87.4 | 92.2 |

*Source: CMEA Statistical Yearbook 1981* p. 210.

The high amplitudes in most countries clearly demonstrate that current grain varieties, fertilizer applications, land improvement and the level of soil fertility are not yet able to counterbalance the dependence of grain production on weather. It has been stated that many new agro-technical measures will have to be implemented, especially in the Soviet Union, where climatic differences between various zones suggest a greater degree of regional specialization.[284]

In the 1981–1985 five-year plans, the promotion of grain production is one of the main objectives in east European countries, either as a basis for expanding livestock output and exports (Bulgaria, Hungary and Romania) or to fill existing gaps in domestic fodder supply (Czechoslovakia, the German Democratic Republic, Poland and the Soviet Union).

The available data do not allow a full picture of planned total grain output in *eastern Europe*. Recalculations from published data for 1985, and assuming that Poland's grain output will recover

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[283] Rye is the predominant grain on light soils poor in nutrients. About half the arable land area of the German Democratic Republic is sandy or loamy, so that rye is really an almost compulsory crop.

[284] L. Brezhnev; speech at the plenary session of the CPSU Central Committee, November 1981: "Until we have learnt to manage weather, work in agriculture should be skilfully adapted to climatic adversities. This presupposes a stricter specialization by the regions. This presupposes the introduction of such crops, of such agro-technical methods that ensure good crops both with shortage and excess of moisture. This presupposes, finally, the manufacture and better use of land improvement and more effective use of growing quantities of fertilizers will help lessen the dependence of agriculture on weather." *Pravda*, 17 November 1981.

TABLE 3.2.7

**Production and yields of grain crops**

(*Output per year in million tons; yields in quintals per hectare*)

| *Country and period* | *Grains total* | | *Wheat* | | *Rye* | | *Barley* | | *Oats* | | *Maize* | | *Total grain output per capita in kg* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Output* | *Yield* | *Output* | *Yield* | *Output* | *Yield* | *Output* | *Yield* | *Output* | *Yield* | *Output* | *Yield* | |
| *Bulgaria* | | | | | | | | | | | | | |
| 1971–1975 | 7.47 | 33.1 | 3.19 | 33.8 | 0.02 | 12.5 | 1.48 | 30.9 | 0.07 | 12.4 | 2.51 | 39.7 | 865 |
| 1976–1980 | 7.98 | 35.4 | 3.51 | 37.4 | 0.02 | 13.6 | 1.53 | 31.6 | 0.07 | 14.1 | 2.65 | 40.3 | 905 |
| Plan 1981–1985 | 10.5–11[a] | | | | | | | | | | | | |
| 1979 | 8.36 | 37.0 | 3.36 | 35.0 | 0.02 | 14.9 | 1.54 | 32.5 | 0.07 | 12.5 | 3.22 | 48.3 | |
| 1980 | 7.70 | 36.1 | 3.85 | 39.7 | 0.03 | 14.1 | 1.38 | 32.3 | 0.05 | 12.9 | 2.26 | 38.5 | 868 |
| 1981 | 8.58 | | | | | | | | | | | | |
| *Czechoslovakia* | | | | | | | | | | | | | |
| 1971–1975 | 9.44 | 33.9 | 4.36 | 36.4 | 0.63 | 28.6 | 2.99 | 33.8 | 0.73 | 26.2 | 0.64 | 44.1 | 647 |
| 1976–1980 | 10.20 | 36.9 | 4.95 | 40.2 | 0.58 | 31.1 | 3.39 | 36.8 | 0.42 | 26.0 | 0.72 | 45.0 | 674 |
| Plan 1981–1985 | 12.40[a] | | | | | | | | | | | | |
| 1979 | 9.30 | 33.5 | 3.74 | 33.6 | 0.49 | 29.3 | 3.60 | 34.6 | 0.40 | 26.8 | 0.95 | 50.1 | |
| 1980 | 10.86 | 40.1 | 5.39 | 45.0 | 0.57 | 31.9 | 3.58 | 38.8 | 0.42 | 30.4 | 0.75 | 46.9 | 709 |
| 1981 | 9.44* | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . |
| *German Democratic Republic* | | | | | | | | | | | | | |
| 1971–1975 | 8.76 | 35.7 | 2.80 | 40.7 | 1.77 | 27.8 | 2.97 | 40.4 | 0.84 | 35.6 | 0.01 | 31.2 | 516 |
| 1976–1980 | 9.12 | 35.4 | 3.00 | 41.7 | 1.75 | 27.1 | 3.72 | 37.9 | 0.53 | 33.4 | – | 43.5 | 544 |
| Plan 1981–1985 | 10.40[a] | 39.5[a] | | | | | | | | | | | |
| 1979 | 8.95 | 35.3 | 3.12 | 43.8 | 1.83 | 27.0 | 3.32 | 35.2 | 0.53 | 39.1 | – | 46.9 | |
| 1980 | 9.70 | 37.7 | 3.10 | 43.8 | 1.92 | 28.3 | 3.98 | 41.1 | 0.58 | 37.5 | – | 44.9 | 579 |
| 1981 | 9.10* | 36.0 | | | | | | | | | – | | |
| *Hungary* | | | | | | | | | | | | | |
| 1971–1975 | 11.53 | 35.0 | 4.30 | 33.2 | 0.17 | 15.1 | 0.81 | 28.8 | 0.08 | 18.2 | 5.93 | 41.7 | 1 104 |
| 1976–1980 | 12.76 | 41.6 | 5.19 | 40.6 | 0.14 | 16.5 | 0.77 | 32.5 | 0.09 | 23.7 | 6.37 | 48.5 | 1 196 |
| Plan 1981–1985 | 14.7–15.7[a] | | | 45–48[a] | | | | | | | | 55–57[a] | |
| 1979 | 12.19 | 40.3 | 3.71 | 32.6 | 0.09 | 13.3 | 0.71 | 27.0 | 0.09 | 19.6 | 7.40 | 54.0 | |
| 1980 | 14.17 | 47.3 | 6.08 | 47.6 | 0.14 | 19.0 | 0.93 | 37.7 | 0.11 | 30.3 | 6.67 | 53.2 | 1 322 |
| 1981 | 12.95 | | 4.5 | 40.0 | | | | | | | 6.96 | 58.6 | |
| *Poland* | | | | | | | | | | | | | |
| 1971–1975 | 21.24 | 25.1 | 5.61 | 28.2 | 7.68 | 23.1 | 3.18 | 28.6 | 3.16 | 24.5 | 0.03 | 42.6 | 636 |
| 1976–1980 | 19.72 | 24.5 | 5.09 | 29.3 | 6.47 | 21.6 | 3.56 | 27.6 | 2.43 | 22.8 | 0.16 | 40.0 | 564 |
| Plan 1981–1985 | | | | | | | | | | | | | |
| 1979 | 17.57 | 21.8 | 4.19 | 27.0 | 5.20 | 18.1 | 3.73 | 25.4 | 2.19 | 20.0 | 0.18 | 39.0 | |
| 1980 | 18.54 | 23.1 | 4.18 | 26.0 | 6.57 | 21.6 | 3.42 | 25.9 | 2.25 | 22.5 | 0.06 | 35.4 | 521 |
| 1981 | 19.70 | 24.9 | | | | | | | | | | | |
| *Romania* | | | [b] | [b] | | | | | | | | | |
| 1971–1975 | 14.97 | 24.1 | 5.43 | 22.2 | . . | . . | 0.85 | 23.3 | 0.10 | 10.2 | 8.35 | 26.8 | 718 |
| 1976–1980 | 19.48 | 30.1 | 6.15 | 26.8 | . . | . . | 1.98 | 29.9 | 0.06 | 10.9 | 11.10 | 33.6 | 892 |
| Plan 1981–1985 | 28.50[a] | | | 40.0[a] | | | 50.0[a] | | 55.0[a] | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Romania* | | | | | | | | | | | | | |
| 1979 | 19.42 | 30.0 | 4.72 | 22.0 | .. | .. | 2.04 | 26.4 | 0.06 | 10.0 | 12.43 | 37.2 | |
| 1980 | 20.30 | 30.8 | 6.47 | 28.4 | .. | .. | 2.47 | 30.5 | 0.05 | 9.2 | 11.15 | 33.9 | 915 |
| 1981 | 20.00 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *East European countries* | | | | | | | | | | | | | |
| 1971–1975 | 73.40 | 28.8 | 25.68 | 30.0 | 10.27 | 23.8 | 12.27 | 31.8 | 4.98 | 24.8 | 17.47 | 33.5 | 700 |
| 1976–1980 | 79.25 | 31.5 | 27.89 | 34.0 | 8.96 | 22.8 | 14.95 | 32.7 | 3.60 | 23.6 | 21.01 | 38.4 | 732 |
| Plan 1981–1985 | 94.00* | | | | | | | | | | | | |
| 1979 | 73.80 | 29.5 | 22.82 | 30.0 | 7.64 | 20.1 | 14.95 | 30.1 | 3.34 | 21.7 | 24.17 | 43.2 | 698 |
| 1980 | 81.27 | 32.5 | 29.05 | 36.2 | 9.22 | 23.1 | 14.74 | 33.6 | 3.46 | 24.4 | 20.89 | 39.4 | 743 |
| 1981 | 80.07 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Soviet Union* | | | | | | | | | | | | | |
| 1971–1975 | 181.55 | 14.7 | 88.94 | 14.5 | 11.49 | 13.5 | 43.29 | 15.3 | 14.81 | 13.2 | 10.22 | 28.2 | 727 |
| 1976–1980 | 205.05 | 16.0 | 99.69 | 16.4 | 10.88 | 14.0 | 55.15 | 16.3 | 17.16 | 14.2 | 9.57 | 32.2 | 785 |
| Plan 1981–1985 | 239.00 | 18.7 | | | | | | | | | | | |
| 1979 | 179.28 | 14.2 | 90.30 | 15.6 | 8.12 | 12.5 | 47.96 | 13.0 | 15.17 | 12.4 | 8.37 | 31.3 | |
| 1980 | 189.09 | 14.9 | 98.18 | 16.0 | 10.21 | 11.8 | 43.45 | 13.8 | 15.54 | 13.2 | 9.45 | 31.7 | 712 |
| 1981 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Byelorussian SSR* | | | | | | | | | | | | | |
| 1971–1975 | 5.54 | 21.3 | 0.66 | 23.0 | 1.57 | 21.0 | 2.47 | 23.7 | 0.60 | 20.1 | – | – | 600 |
| 1976–1980 | 6.18 | 21.3 | 0.33 | 25.1 | 1.99 | 21.6 | 2.90 | 23.3 | 0.72 | 20.0 | – | – | 651 |
| Plan 1981–1985 | | | | | | | | | | | | | |
| 1979 | 4.58 | 15.1 | 0.21 | 19.0 | 1.58 | 16.6 | 2.03 | 15.6 | 0.56 | 14.4 | – | – | 478 |
| 1980 | 5.01 | 16.0 | 0.24 | 19.9 | 1.85 | 17.2 | 2.05 | 16.9 | 0.59 | 15.1 | – | – | 519 |
| 1981 | | | | | | | | | | | | | |
| *Ukrainian SSR* | | | | | | | | | | | | | |
| 1971–1975 | 40.01 | 24.7 | 19.82 | 28.4 | 1.31 | 17.7 | 8.24 | 22.8 | 1.50 | 18.5 | 5.95 | 27.9 | 827 |
| 1976–1980 | 43.15 | 26.1 | 21.97 | 30.1 | 1.28 | 17.7 | 10.64 | 24.6 | 1.49 | 19.5 | 4.35 | 29.0 | 869 |
| Plan 1981–1985 | | | | | | | | | | | | | |
| 1979 | 33.96 | 21.1 | 17.26 | 25.8 | 1.10 | 16.7 | 8.57 | 18.5 | 1.03 | 13.5 | 3.95 | 27.8 | 681 |
| 1980 | 38.10 | 23.1 | 21.33 | 26.6 | 1.14 | 14.2 | 7.24 | 20.8 | 1.18 | 16.7 | 4.07 | 27.2 | 762 |
| 1981 | | | | | | | | | | | | | |
| *ECE and Soviet Union* | | | | | | | | | | | | | |
| 1971–1975 | 254.96 | 17.1 | 114.61 | 16.4 | 21.77 | 17.0 | 55.56 | 17.3 | 19.79 | 15.0 | 27.68 | 31.3 | 719 |
| 1976–1980 | 284.29 | 18.5 | 127.58 | 18.5 | 19.84 | 17.0 | 70.10 | 18.2 | 20.76 | 15.3 | 30.58 | 36.2 | 770 |
| Plan 1981–1985 | 333.00* | | | | | | | | | | | | |
| 1979 | 253.08 | 16.7 | 113.12 | 17.3 | 15.76 | 15.3 | 62.90 | 15.0 | 18.51 | 13.4 | 32.55 | 39.4 | 686 |
| 1980 | 270.36 | 17.8 | 127.23 | 18.3 | 19.43 | 15.4 | 58.19 | 16.4 | 19.00 | 14.4 | 30.34 | 36.6 | 721 |
| 1981 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

*Sources:* As for table 3.2.1.

[a] Estimation of the Secretariat; calculated on the basis of national plan data for grain output in 1985.

[b] Including rye.

during 1981–1985 at least to the 1971–1975 level, indicate that a total grain output of 93.5–94 million tons on average per year in the current five-year plan seems to be envisaged.[285] Compared with the achieved levels in 1976–1980, an average annual growth of grain output by around 3.5 per cent is indicated. Output per capita—assuming that population development follows similar trends as between 1970–1980, (3 per cent growth on five years at an annual rate)—would reach more than 840 kg per head in the east European countries (table 3.2.7). *Bulgaria* plans to boost grain output by 30–35 per cent in comparison with 1976–1980. Taking into account the target fixed for 1985 (10.5–11.0 million tons) average annual harvests between 10.3–10.7 million tons will be needed. In 1981, almost 8.6 million tons were harvested. A main priority is to stabilize and increase production of maize. In *Czechoslovakia*, grain output of 12.4 million tons in 1985 is envisaged. In comparison with performance achieved in 1980, the necessary annual increase would be 2.5 per cent and annual average output would reach 11.7 million tons. Taking into account the disappointing performance in 1981 (1.6 million tons below the planned 11 million tons), tremendous efforts and an average annual output of more than 12 million tons in the remaining four years will be necessary to implement the 1985 target. The *German Democratic Republic* plans to achieve a grain output of 10.4 million tons and an average yield of 39.5 quintals per hectare in 1985. This target seems to be modest, demanding no more than a 1.4 per cent annual increase over 1980. But the still lower planned increase in yields (about 0.9 per cent in average per year) and the targeted extension of the grain area by 120,000 hectares lead to the conclusion that factors other than fertilizer supply, selection of grain types or mechanization level hinder faster progress. The main difficulty at the moment seems to be stagnating or even decreasing soil fertility which has to be restored and increased in 1981–1985, as stated in many published documents and speeches. A switch towards organic fertilizer (manure and humus) is urgently needed. In 1981 about 9 million tons have been harvested with yields of 36 quintals per hectare. *Hungary* has set a plan target of 14.7–15.7 million tons of grain by 1985, based on yields of 45–48 quintals per hectare of wheat and 55–57 quintals per hectare of maize. The implied average annual increase of about 2.8 per cent seems not to be very ambitious if it is possible to stabilize output and yields at the high 1980 levels, which are already close to the planned target. The development of the area sown to grain, currently declining, and the improvement of fertilizer supplies (about 25 per cent of which were imported in 1980) will be the determining factors. Grain output in 1981 achieved nearly 13 million tons, that is below the level of 1980, but in maize output and yields further progress was reached.

*Poland* had, after two disappointing years, good results of grain output in 1981. About 20 million tons were harvested. Targets up to 1985 are not yet decided.

*Romania*, which recorded the highest percentage increase in grain output between the previous two five-year periods, has also set the most ambitious targets for 1985. The goal of a 28.5 million ton grain harvest in 1985 implies an annual average output of about 25 million tons—some 28.2 per cent higher than achieved in 1976–1980. The increases foreseen in yields of wheat, barley and maize are even faster, with annual average growth rates between 7 and 10 per cent compared with the results in 1980.[286] That indicates no extension of sown area for grain, so that the burden for achieving these ambitious targets will lay on the utilization of high-yielding varieties, comprehensive mechanization, the attainment of a planned high increase of fertilizer supplies, until now lower than in the other east European countries, and the influence of weather conditions.

The *Soviet Union* has planned average grain output at 239 million tons per year in 1981–1985. This target is 16.6 per cent higher than the average achieved in 1976–1980. Average yields were planned to increase by at least 16.9 per cent (to 18.7 quintals per hectare)—higher efficiency being the most important source of accelerated output growth. The envisaged expansion of the area under grain by about 1.2 million hectares will clearly have only marginal importance. Taking into account the high weather dependence of Soviet agriculture, and the fact that nearly one out of 2–3 years is unfavourable for crop production, the very ambitious target could be implemented only if all measures to raise efficiency were to be implemented on time and if weather conditions were average to good in all years. The range of measures to be implemented is very wide: regional specialization, selection of varieties adapted to local conditions and soil quality,[287] increased fertilizer supply, exact harvest timing and the solution of all problems in the supply and utilization of agricultural machinery and equipment—including transport and storage facilities.[288]

With regard to *other basic agricultural crops* (table 3.2.8) some structural changes took place in the region during 1976–1980. The area sown to *potatoes*, and also output, decreased in most countries (except Bulgaria and Romania). The more than 10 per cent reported area reduction was only marginally offset by small growth in yields per hectare (3–3.5 per

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[285] Plan targets for 1985 for Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary and Romania sum to 77.2 million tons (for Bulgaria and Hungary, mid-range data).

[286] The following yields in quintals per hectare are envisaged by 1985: wheat 40 q/ha; barley 50 q/ha; maize 55 q/ha.

[287] It has been reported that so far only 10.15 per cent of crop varieties designed for specific regions of the country have all-round resistance to disease, and several thousand million roubles worth of crops are lost annually through disease and pests. Radio report; meeting of All-Union Academy of Agricultural Sciences, Moscow, April 1981.

[288] In the current five-year plan, it is planned to put into operation grain elevators with a total capacity of 20 million tons. Most of these will be built in the major grain-growing areas of the RSFSR, the Ukrainian SSR and Kazakhstan. Radio report; Moscow, March 1981.

### TABLE 3.2.8

### Production and yields of non-grain crops

*(Output in thousand tons; yields in quintals per hectare)*

| *Country and period* | *Potatoes* | | *Vegetable output* | *Fruit output* | *Sugar-beet* | | *Oilseeds* | | *Raw cotton* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Output* | *Yield* | | | *Output* | *Yield* | *Output* | *Yield* | *Output* | *Yield* |
| *Bulgaria* | | | | | | | | | | |
| 1971–1975 | 355 | 118 | 1 682 | 2 126 | 1 711 | 293 | 475 | 16.7 | 39.2 | 11.0 |
| 1976–1980 | 370 | 105 | 1 741 | 1 963 | 1 827 | 290 | 511 | 15.8 | 12.3 | 6.8 |
| 1979 | 424 | 108 | 1 773 | 1 860 | 2 045 | 337 | 587 | 17.8 | 17.5 | 10.9 |
| 1980 | 301 | 85 | 1 639 | 1 919 | 1 414 | 267 | 493 | 14.2 | 11.7 | 9.5 |
| 1981 | . . | . . | 1 736 | 2 136 | . . | . . | . . | . . | . . | . . |
| *Czechoslovakia* | | | | | | | | | | |
| 1971–1975 | 4 571 | 153 | 1 078 | 517 | 6 867 | 346 | 125 | 17.8 | – | – |
| 1976–1980 | 3 678 | 165 | 1 015 | 659 | 7 104 | 328 | 180 | 17.2 | – | – |
| 1979 | 3 725 | 172 | 1 049 | 593 | 7 613 | 349 | 120 | 12.1 | – | – |
| 1980 | 2 695 | 136 | 974 | 772 | 7 230 | 332 | 252 | 19.2 | – | – |
| 1981 | | | | | | | | | | |
| *German Democratic Republic* | | | | | | | | | | |
| 1971–1975 | 10 806 | 171 | 1 141 | 571 | 5 496 | 277 | 275 | 22.0 | – | – |
| 1976–1980 | 9 873 | 175 | 1 555 | 686 | 6 510 | 267 | 301 | 22.8 | – | – |
| 1979 | 12 243 | 223 | 1 659 | 1 063 | 6 502 | 263 | 215 | 17.3 | – | – |
| 1980 | 9 215 | 180 | 1 472 | 790 | 6 856 | 281 | 318 | 23.6 | – | – |
| 1981 | 10 460* | 205 | | | 7 995* | 301 | | | | |
| *Hungary* | | | | | | | | | | |
| 1971–1975 | 1 602 | 117 | 1 633 | 2 200 | 3 097 | 330 | 231 | 12.1 | – | – |
| 1976–1980 | 1 567 | 142 | 1 794 | 2 347 | 3 979 | 336 | 447 | 14.8 | – | – |
| 1979 | 1 512 | 144 | 1 752 | 2 253 | 3 928 | 349 | 517 | 16.3 | – | – |
| 1980 | 1 392 | 150 | 1 793 | 2 551 | 3 941 | 376 | 620 | 16.7 | – | – |
| 1981 | 1 587 | . . | . . | . . | . . | . . | 849 | . . | – | – |
| *Poland* | | | | | | | | | | |
| 1971–1975 | 47 083 | 177 | 3 813 | 1 151 | 13 741 | 307 | 573 | 17.9 | | |
| 1976–1980 | 42 742 | 177 | 4 183 | 1 717 | 14 149 | 280 | 655 | 19.0 | | |
| 1979 | 49 572 | 203 | 4 720 | 1 791 | 14 154 | 311 | 257 | 12.5 | | |
| 1980 | 26 391 | 113 | 3 847 | 1 563 | 10 139 | 221 | 583 | 17.3 | | |
| 1981 | | | | | | | | | | |
| *Romania* | | | | | | | | | | |
| 1971–1975 | 3 387 | 114 | 2 675 | 2 299 | 4 758 | 221 | 1 054 | 13.1 | . . | . . |
| 1976–1980 | 4 432 | 147 | 3 523 | 2 893 | 6 135 | 248 | 1 190 | 13.7 | 0.6 | 2.6 |
| 1979 | 4 562 | 151 | 3 529 | 3 293 | 6 109 | 236 | 1 339 | 14.3 | 1.2 | 6.3 |
| 1980 | 4 135 | 141 | 3 589 | 2 731 | 5 562 | 234 | 1 336 | 13.5 | 0.2 | 2.0 |
| 1981 | 4 009 | . . | 3 828 | 1 347 | 5 409 | . . | . . | . . | . . | . . |
| *East European countries* | | | | | | | | | | |
| 1971–1975 | 67 804 | 167 | 12 022 | 8 864 | 35 670 | 294 | 2 733 | 15.2 | 39.2 | 11.0 |
| 1976–1980 | 62 662 | 172 | 13 811 | 10 265 | 39 704 | 285 | 3 284 | 15.8 | 12.9 | 6.3 |
| 1979 | 72 308 | | 14 482 | 10 853 | 40 351 | | 3 035 | | 18.7 | |
| 1980 | 44 129 | 127 | 13 314 | 10 326 | 35 142 | 267 | 3 602 | 13.4 | 11.9 | 9.0 |
| 1981 | | | | | | | | | | |
| *Soviet Union* | | | | | | | | | | |
| 1971–1975 | 89 782 | 113 | 22 974 | 12 381 | 75 983 | 217 | 6 695 | 11.0 | 7 667 | 27.3 |
| 1976–1980 | 82 571 | 117 | 26 326 | 15 170 | 88 446 | 237 | 6 044 | 10.2 | 8 932 | 29.3 |
| 1979 | 90 956 | 130 | 27 215 | 16 303 | 76 212 | 204 | 6 077 | 10.4 | 9 161 | 29.6 |
| 1980 | 67 023 | 96 | 27 373 | 14 644 | 79 559 | 218 | 5 327 | 9.1 | 9 962 | 31.7 |
| 1981 | 72 000 | . . | 25 600 | . . | 60 600 | . . | | | 9 600 | . . |

TABLE 3.2.8 (*continued*)

| Country and period | Potatoes |  | Vegetable output | Fruit output | Sugar-beet |  | Oilseeds |  | Raw cotton |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  | Output | Yield |  |  | Output | Yield | Output | Yield | Output | Yield |
| *Byelorussian SSR* |  |  |  |  |  |  |  |  |  |  |
| 1971–1975 | 12 986 | 142 | 753 | 411 | 1 104 | 225 | . . | . . | . . | . . |
| 1976–1980 | 12 920 | 159 | 752 | 480 | 1 249 | 246 | . . | . . | . . | . . |
| 1979 | 15 253 | 191 | 797 | 422 | 1 383 | 270 | . . | . . | . . | . . |
| 1980 | 9 332 | 119 | 733 | 414 | 1 122 | 229 | . . | . . | . . | . . |
| 1981 | 13 400 |  | 840 |  | 1 400 |  |  |  |  |  |
| *Ukrainian SSR* |  |  |  |  |  |  | [a] | [a] |  |  |
| 1971–1975 | 21 019 | 111 | 6 577 | 3 653 | 45 957 | 268 | 2 712 | 15.8 | . . | . . |
| 1976–1980 | 20 542 | 120 | 7 579 | 3 878 | 53 891 | 300 | 2 422 | 14.3 | . . | . . |
| 1979 | 23 128 | 135 | 7 216 | 4 840 | 47 085 | 263 | 2 639 | 16.0 | . . | . . |
| 1980 | 13 133 | 77 | 7 186 | 3 139 | 48 841 | 274 | 2 257 | 13.4 | . . | . . |
| 1981 | 19 000 |  | 6 100 | 4 000 | 36 500 |  |  |  |  |  |
| *East European countries and Soviet Union* |  |  |  |  |  |  |  |  |  |  |
| 1971–1975 | 157 586 | 131 | 34 996 | 21 245 | 111 653 | 237 | 9 428 | 12.0 | 7 706 | 27.1 |
| 1976–1980 | 145 233 | 136 | 40 137 | 25 435 | 128 150 | 250 | 9 328 | 11.7 | 8 945 | 29.1 |
| 1979 | 162 994 |  | 41 697 | 27 156 | 116 563 |  | 9 112 |  | 9 180 |  |
| 1980 | 111 152 | 106 | 40 687 | 24 970 | 114 701 | 231 | 8 929 | 10.2 | 9 974 | 31.6 |
| 1981 |  |  |  |  |  |  |  |  |  |  |

*Sources:* As for table 3.2.1.

[a] Sunflower.

cent). Output in Poland in 1980 was 46.7 per cent below the result in 1979. The generally falling tendency in potato production is obviously linked to consumer demand patterns (Czechoslovakia and the German Democratic Republic)—and the declining importance of potatoes for feed purposes (especially for pigs, where feed grain is gaining ground). No figures are given for potato production in 1981–1985; the area sown to the crop may be stabilized to maintain production for human consumption, and also to supplement pig fodder supplies.[289]

*Sugar-beet* production is gaining importance. Its area expanded in all countries by 8–25 per cent in 1976–1980, by 15.9 per cent in eastern Europe and 8 per cent in the Soviet Union relative to 1971–1975. Output grew more slowly than the area sown in eastern Europe, declining yields having been registered in most countries (except Hungary and Romania). In contrast, output in the Soviet Union rose by 16.4 per cent and average yields by 9.2 per cent. In all countries yields have been subject to wide fluctuations from year to year. As a crop type with a high nutrient value, sugar-beet is also very sensitive to soil fertility. Besides covering growing domestic demand and providing raw material for sugar production and exports, its importance for fodder purposes is growing in some countries (Czechoslovakia and the German Democratic Republic) and more will be allocated for feed. All countries will attempt to stabilize or increase yields and to raise the sugar content. In Romania the sugar-beet area will be expanded from 270,000 hectares in 1980 to 350,000 hectares and an output target of 12.5 million tons has been set.

Output of *oilseeds* tended to expand in 1976–1980 in eastern Europe. It rose in eastern Europe by 20 per cent, due to expanded area and higher yields (except in Bulgaria and Czechoslovakia). In view of fodder protein shortages, the progressive decline in this crop (by 10 per cent between the two previous five-year periods) in the Soviet Union is surprising.

Output of *raw cotton* in the Soviet Union grew remarkably, increasing by 16.5 per cent in 1976–1980. Average yields rose by 7.3 per cent. In 1980, a record harvest of around 10 million tons was gathered, with average yields of 31.7 quintals per hectare. Raw cotton has proved to be a relatively stable crop; its high export value has provided a financial basis for Soviet agricultural imports. The output in 1981 achieved 9.6 million tons.

### (iv) Livestock output

Livestock numbers increased during 1976–1980 in eastern Europe by 5.5 per cent in comparison with 1971–1975; in the Soviet Union, the rise was 6.2 per cent (in conventional units—table 3.2.9). A remarkable feature in the structure of livestock is the growing share of pigs in all countries (except Bulgaria) and of poultry (except Poland). The increase in pigs and poultry in most countries results primarily from their suitability for rearing in factory

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[289] "Another important matter is to increase the production, widen the variety and raise the quality of potatoes, ... to preserve them better and to cut losses drastically. Potatoes deserve a special mention ... With the present structure of food product production, it is wrong to reduce cultivation of potatoes." L. Kostin; interview, Moscow, 6 May 1981.

TABLE 3.2.9

**Livestock and livestock output**[a]

| Country and period | Livestock (thousand head) Cattle | of which: cows | Pigs | Sheep and goats | Total conventional units[b] | Livestock output (thousand tons) Meat total | of which: poultry | Milk total | Eggs (millions) | Wool |
|---|---|---|---|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | | | | | |
| 1971–1975 | 1 567 | 666 | 3 030 | 10 229 | 3 999 | 574 | 117 | 1 728 | 1 721 | 32 |
| 1976–1980 | 1 817 | 729 | 3 653 | 10 562 | 4 472 | 746 | 153 | 2 033 | 2 136 | 34 |
| 1979 | 1 839 | 736 | 3 830 | 10 969 | 4 584 | 782 | 162 | 2 205 | 2 253 | 35 |
| 1980 | 1 843 | 723 | 3 808 | 10 900 | 4 579 | 788 | 165 | 2 212 | 2 446 | 35 |
| 1981 | 1 854 | 727 | 3 842 | 11 205 | | 789 | | 2 243 | 2 463 | |
| *Czechoslovakia* | | | | | | | | | | |
| 1971–1975 | 4 497 | 1 913 | 6 339 | 1 033 | 6 348 | 1 256 | 123 | 5 420 | 4 267 | 4 |
| 1976–1980 | 4 841 | 1 902 | 6 883 | 932 | 6 799 | 1 454 | 159 | 5 696 | 4 691 | 4 |
| 1979 | 4 915 | 1 903 | 7 588 | 938 | 7 095 | 1 467 | 169 | 5 723 | 4 732 | 4 |
| 1980 | 5 002 | 1 902 | 7 894 | 967 | 7 218 | 1 654 | 172 | 5 966 | 4 900 | 4 |
| 1981 | 4 900 | 1 899 | 7 303 | | | | | | | |
| *German Democratic Republic* | | | | | | | | | | |
| 1971–1975 | 5 454 | 2 164 | 10 845 | 1 828 | 8 570 | 1 600 | 113 | 7 215 | 4 690 | 8 |
| 1976–1980 | 5 582 | 2 142 | 11 957 | 1 986 | 9 059 | 1 821 | 137 | 7 289 | 5 287 | 11 |
| 1979 | 5 596 | 2 125 | 12 132 | 2 004 | 9 142 | 1 824 | 140 | 7 193 | 5 219 | 11 |
| 1980 | 5 723 | 2 138 | 12 871 | 2 062 | 9 458 | 1 899 | 145 | 7 243 | 5 514 | 12 |
| 1981 | 5 749 | 2 122 | 12 869 | 2 169 | | | | | | |
| *Hungary* | | | | | | | | | | |
| 1971–1975 | 1 926 | 771 | 7 542 | 2 013 | 5 219 | 1 298 | 255 | 1 768 | 3 521 | 8 |
| 1976–1980 | 1 933 | 777 | 8 067 | 2 782 | 5 599 | 1 467 | 325 | 2 290 | 4 475 | 11 |
| 1979 | 1 950 | 780 | 8 355 | 2 938 | 5 695 | 1 522 | 331 | 2 465 | 4 721 | 11 |
| 1980 | 1 911 | 765 | 8 265 | 3 105 | 5 662 | 1 541 | 347 | 2 557 | 4 385 | 12 |
| 1981 | 1 945 | | 8 300 | 3 043 | | 1 556 | | 2 659 | 4 297 | 12 |
| *Poland* | | | | | | | | | | |
| 1971–1975 | 11 943 | 6 137 | 20 155 | 2 743 | 20 169 | 2 708 | 199 | 16 068 | 7 575 | 9 |
| 1976–1980 | 12 054 | 5 820 | 19 635 | 3 513 | 19 453 | 3 064 | 374 | 16 814 | 8 523 | 12 |
| 1979 | 12 164 | 5 840 | 20 983 | 3 633 | 19 732 | 3 257 | 419 | 16 965 | 8 670 | 14 |
| 1980 | 11 337 | 5 666 | 18 734 | 3 490 | 18 662 | 3 141 | 441 | 16 499 | 8 902 | 13 |
| 1981 | 11 496 | 5 723 | 19 052 | | | 2 538 | | 15 311 | 8 900 | |
| *Romania* | | | | | | | | | | |
| 1971–1975 | 5 860 | 2 485 | 8 579 | 14 621 | 10 501 | 1 169 | 213 | 4 365 | 4 241 | 31 |
| 1976–1980 | 6 433 | 2 634 | 10 543 | 15 615 | 12 096 | 1 623 | 363 | 5 422 | 6 193 | 35 |
| Plan 1981–1985 | 7 300[b] | | 15 000[b] | 21 500[b] | | | | | 8 620 | 64[b] |
| 1979 | 6 513 | 2 682 | 10 899 | 16 195 | 12 345 | 1 760 | 411 | 5 659 | 6 766 | 37 |
| 1980 | 6 485 | 2 670 | 11 542 | 16 212 | 12 554 | 1 769 | 406 | 5 480 | 6 442 | 37 |
| 1981 | 6 341 | | 11 305 | 15 583 | | | | | | |
| *Eastern Europe* | | | | | | | | | | |
| 1971–1975 | 31 247 | 14 136 | 56 490 | 32 467 | 54 778 | 8 605 | 1 020 | 36 582 | 26 015 | 92 |
| 1976–1980 | 32 660 | 14 004 | 60 738 | 35 390 | 57 778 | 10 175 | 1 511 | 39 544 | 31 305 | 107 |
| 1979 | 32 977 | 14 066 | 63 787 | 36 677 | 58 593 | 10 612 | 1 632 | 40 210 | 32 361 | 113 |
| 1980 | 32 301 | 13 864 | 63 114 | 36 736 | 59 132 | 10 792 | 1 676 | 39 957 | 32 589 | 113 |
| 1981 | 32 285 | .. | 62 671 | | | | | | | |
| *Soviet Union* | | | | | | | | | | |
| 1971–1975 | 106 572 | 41 157 | 67 646 | 147 367 | 136 986 | 14 004 | 1 335 | 87 446 | 51 408 | 442 |
| 1976–1980 | 113 456 | 42 899 | 70 866 | 147 400 | 145 538 | 14 826 | 1 828 | 92 700 | 63 100 | 460 |
| Plan 1981–1985 | | | | | | 18 200[b] | | 102 000[b] | | |
| 1979 | 115 100 | 43 310 | 73 898 | 149 423 | 148 895 | 15 341 | 2 034 | 93 130 | 64 750 | 475 |
| 1980 | 115 057 | 43 389 | 73 382 | 147 487 | 149 297 | 15 100 | 2 103 | 90 900 | 67 900 | 443 |
| 1981 | 115 700 | 43 600 | 73 200 | 148 000 | .. | 15 200 | .. | 88 500 | 70 900 | 454 |

TABLE 3.2.9 (*continued*)

| | *Livestock (thousand head)* | | | | | *Livestock output (thousand tons)* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Country and period* | *Cattle* | of which: *cows* | *Pigs* | *Sheep and goats* | *Total conventional units*[b] | *Meat total* | of which: *poultry* | *Milk total* | *Eggs (millions)* | *Wool* |
| ***Byelorussian SSR*** | | | | | | | | | | |
| 1971–1975 . . . . . . . | 6 432 | 2 609 | 4 161 | 623 | . . | 789 | 50 | 5 720 | 2 276 | 1.2 |
| 1976–1980 . . . . . . . | 6 695 | 2 733 | 4 456 | 566 | . . | 884 | 71 | 6 270 | 2 824 | 1.1 |
| 1979 . . . . . . . . . . | 6 735 | 2 748 | 4 437 | 564 | . . | 925 | 78 | 6 252 | 2 938 | 1.1 |
| 1980 . . . . . . . . . . | 6 766 | 2 737 | 4 562 | 570 | . . | 873 | 88 | 6 157 | 3 033 | 1.1 |
| 1981 . . . . . . . . . . | 6 880 | 2 744 | 4 711 | 576 | | 831 | | 5 775 | 3 101 | 1.1 |
| ***Ukrainian SSR*** | | | | | | | | | | |
| 1971–1975 . . . . . . . | 23 137 | 8 851 | 19 769 | 9 223 | . . | 3 280 | 373 | 20 360 | 11 215 | 27 |
| 1976–1980 . . . . . . . | 25 084 | 9 187 | 19 723 | 9 104 | . . | 3 465 | 465 | 21 768 | 13 522 | 28 |
| 1979 . . . . . . . . . . | 25 552 | 9 289 | 20 149 | 9 185 | . . | 3 638 | 503 | 21 628 | 14 135 | 28 |
| 1980 . . . . . . . . . . | 25 368 | 9 271 | 19 783 | 9 051 | . . | 3 467 | 507 | 21 108 | 14 505 | 27 |
| 1981 . . . . . . . . . . | 25 400 | 9 300 | 19 900 | 9 000 | | 3 570 | | 20 700 | 15 200 | 27 |
| ***Soviet Union and Eastern Europe*** | | | | | | | | | | |
| 1971–1975 . . . . . . . | 137 819 | 55 293 | 124 136 | 179 834 | 191 763 | 22 609 | 2 355 | 124 028 | 76 728 | 534 |
| 1976–1980 . . . . . . . | 146 116 | 56 856 | 131 628 | 182 790 | 203 012 | 25 001 | 3 335 | 132 152 | 93 492 | 564 |
| 1979 . . . . . . . . . . | 148 077 | 57 376 | 137 685 | 186 100 | 207 488 | 26 093 | 3 649 | 133 555 | 96 900 | 582 |
| 1980 . . . . . . . . . . | 147 358 | 57 253 | 136 496 | 184 223 | 207 428 | 25 773 | 3 779 | 130 587 | 99 390 | 571 |
| 1981 . . . . . . . . . . | 147 985 | . . | 135 871 | . . | . . | . . | . . | . . | . . | . . |

*Sources:* As for table 3.2.1.

*Note:* Livestock numbers based on the end-year census. Meat is in carcass weight. Eggs include only hen's eggs. Wool is raw wool on a greasy basis.

[a] Annual averages over five-year periods.

[b] In terms of cows. Conversion ratios: cattle (other than cows) 0.6; pigs 0.3; total sheep and goats 0.1; horses 1.0; poultry 0.02. *Source: Spravocanik po planirovaniju sel'skogo khoziaistva* (Moskow, "Kolos", 1974) p. 151.

[c] Goats excluded

farm conditions. This type of production method, however, is fodder intensive—particularly with regard to feed grains and other concentrates.

With respect to *livestock by type* (in absolute numbers), the number of bovine cattle in eastern Europe developed slowly—by 4.5 per cent during the period 1976–1980, or an average annual change of about 0.9 per cent. In the Soviet Union, a 6.5 per cent total increase was recorded. The ratio of cows to total cattle numbers fell everywhere—even in the Soviet Union, where the absolute number rose by a total of 4.1 per cent in 1976–1980 in comparison with the annual average in 1976–1980. In eastern Europe the number of cows fell by 0.9 per cent on the same basis.

**Structure of herds**[a]
(*Percentage share; total livestock = 100*)

| | *Cattle* | | *Pigs* | | *Sheep and goats* | | *Poultry* | |
|---|---|---|---|---|---|---|---|---|
| | *1975* | *1980* | *1975* | *1980* | *1975* | *1980* | *1975* | *1980* |
| Bulgaria . . . . . . . . | 29.8 | 30.5 | 26.5 | 25.0 | 23.4 | 23.7 | 17.3 | 18.2 |
| Czechoslovakia. . . . . | 54.1 | 52.1 | 31.1 | 32.8 | 1.4 | 1.3 | 12.4 | 13.1 |
| German Dem. Rep. . . . | 47.3 | 45.3 | 39.0 | 40.8 | 2.2 | 2.2 | 10.7 | 10.9 |
| Hungary . . . . . . . . | 28.9 | 25.7 | 41.6 | 43.9 | 4.1 | 5.3 | 22.4 | 30.0 |
| Poland . . . . . . . . | 46.8 | 49.5 | 30.0 | 30.6 | 1.5 | 1.9[b] | 9.2 | 8.7 |
| Romania . . . . . . . . | 43.1 | 39.5 | 24.2 | 27.6 | 13.1 | 12.9 | 14.4 | 15.6 |
| Eastern Europe . . . . | 44.6 | 43.1 | 31.5 | 32.8 | 5.8 | 6.3 | 12.7 | 13.3 |
| Soviet Union . . . . . | 61.1 | 58.0 | 12.7 | 14.7 | 10.8 | 9.8 | 10.7 | 13.8 |
| Total. . . . . . . . | 56.2 | 53.8 | 18.2 | 19.7 | 9.3 | 8.8 | 11.3 | 13.6 |

*Source: CMEA Statistical Yearbook 1981.*

[a] In terms of conventional livestock units (see table 3.2.9).

[b] Sheep only.

**Share of cows in total number of cattle**
*(Percentages)*

| | *1971–1975* | *1976–1980* |
|---|---|---|
| Bulgaria | 42.5 | 40.1 |
| Czechoslovakia | 42.5 | 39.3 |
| German Democratic Republic | 39.7 | 38.4 |
| Hungary | 40.0 | 40.2 |
| Poland | 51.4 | 48.3 |
| Romania | 42.4 | 40.9 |
| Eastern Europe | 45.2 | 42.9 |
| Soviet Union | 38.6 | 37.8 |
| Total | 40.1 | 38.9 |

*Sources:* As for table 3.2.1.

The decreasing share of cows reflects their increasing productivity, as indicated by long-term trends in milk yields per cow. But frequent fluctuation in this indicator suggests that, besides annual fluctuation in fodder supply, the herd replacement rate is still too high, which destabilizes average yield per cow from one year to another.

In eastern Europe, the average number of *pigs* increased by 7.5 per cent or about 1.5 per cent annually during 1976–1980, and by 4.8 per cent or just under 1 per cent annually in the Soviet Union. *Sheep* numbers have grown rapidly in eastern Europe, sheep and goats together raising their share in total livestock (in conventional units) from 5.8 per cent during 1971–1975 to 6.3 per cent in 1976–1980; the number of animals rose by 9 per cent during that time. There was virtually no increase in the number of these animals in the Soviet Union. A review by countries shows that *Bulgaria* developed cattle and pig husbandry relatively rapidly, whereas the traditionally high population of sheep and goats rose only moderately. In *Czechoslovakia* the average number of cattle and pigs increased by 7.7 and 8.6 per cent respectively while the average number of sheep and goats decreased by 9.8 per cent. In the *German Democratic Republic* the already high number of bovine cattle rose slowly, but pigs grew by 10.3 per cent, and the average number of sheep and goats also increased—by 6.8 per cent. In *Hungary*, bovine cattle numbers virtually remained stable, but pig numbers rose by 7.0 per cent; an exceptionally large increase of 38.2 per cent was recorded in sheep and goat numbers. This was also the case in *Poland*, where sheep numbers grew by 28.1 per cent over the average herd size in 1971–1975, while the number of bovine cattle stagnated and pig numbers fell by 2.6 per cent. The number of cows fell even faster (by 5.2 per cent), so that the rebuilding of the cattle herd, which was already 5.9 per cent lower than the average for 1976–1980 in 1980, will need some years. *Romania* considerably increased livestock in 1976–1980, compared with the preceding five-year period: total growth in conventional units was 15.2 per cent, the number of cattle rising by 9.8 per cent and the number of pigs by as much as 22.9 per cent.

The *output of livestock products* rose throughout the region (table 3.2.9). In the Soviet Union, meat output increased by 5.9 per cent and in eastern Europe by 18.2 per cent, (average 1976–1980 over average 1971–1975). Bulgaria's meat output grew at 30 per cent. Czechoslovakia recorded an increase of 15.8 per cent. In the German Democratic Republic, Hungary and Poland, meat production rose more moderately—by 13.8, 13.0 and 13.1 per cent respectively. In *Romania*, output rose very near to the east European average level of output per head, raising the production of meat by 38.8 per cent.

From the text table above, showing changes in herd structures, it is clear that pig rearing has rapidly increased its importance in total meat production. It has developed quickly because of the faster reproduction cycle and the shorter fattening time of pigs as compared with cattle. Poultry farming has also developed fast, its share in total meat output increasing in all countries (see text table below).

**Share of poultry meat in total meat output**[a]
*(Percentages)*

| | *1971–1975* | *1976–1980* |
|---|---|---|
| Bulgaria | 20.4 | 20.5 |
| Czechoslovakia | 9.8 | 10.9 |
| German Democratic Republic | 7.1 | 7.5 |
| Hungary | 19.6 | 22.2 |
| Poland | 7.3 | 12.2 |
| Romania | 18.2 | 22.4 |
| Eastern Europe | 11.9 | 14.9 |
| Soviet Union | 9.5 | 12.3 |
| Total | 10.3 | 13.3 |

*Source: CMEA Statistical Yearbook 1981.*

[a] Calculations are based on carcass weight.

The growing importance of poultry meat reflects the growth of factory farming production methods and the implantation of specialized poultry farming on a large enterprise basis in most countries of the region.

Available data for livestock development and animal production in the *five-year plans for 1981–1985* are incomplete but suggest that in most countries increases in herds in the immediate future will be limited and that in all countries higher efficiency in production is envisaged. A common feature is the greater attention to be paid to cattle breeding; this should result in a more balanced development in the structure of livestock number taking into account the constraints imposed by fodder and especially feed grain requirements.

In *Bulgaria*, animal husbandry is planned to increase by about 17 per cent in 1981–1985, slightly below the pace of crop production. The intensification of cattle and sheep breeding through better grazing and fuller use of pastures in mountain regions will be markedly improved. For pork production, a growth of 23.5 per cent between 1980 and 1985 is scheduled. Total meat consumption in the latter year could be 18 per cent higher than in 1980. In *Czechoslovakia*, a shift towards bovine cattle has been projected. A redistribution of cattle within the country according to the different soil conditions and fodder availabilities in the regions is envisaged. More attention is to be paid to sheep farming, which was neglected during 1976–1980. It has been stressed that the structure of livestock production should be subordinated principally to raising the level of national food elf-sufficiency and reducing imports of feedstuffs. It is thus intended to maintain the consumption of meat per capita no higher than present relatively high levels, and to increase the share of milk and dairy products in human nutrition. The *German Democratic Republic* is facing similar problems. The main objective in animal production is to produce more economically, mainly through better meat and milk performance per animal. No expansion of the herds is expected to take place and the output of livestock products might increase only marginally. Judging from state procurement figures fixed in the five-year plan document, no quantitative rise in output is planned above the levels achieved in 1980. Further improvements in supplies of livestock products are likely to be concentrated on qualitative aspects.

For *Hungary*, no quantitative data for the livestock sector are included in the five-year plan document. Herds, which are dominated by pigs, will probably grow only marginally. As in other countries of the region, reductions in inputs per unit of output are the main priority and it is stressed particularly with regard to pig farming. For bovine cattle products, the use of coarse feeds is emphasized and increases in milk supply will have to be ensured by higher yields. The general orientation is to use less material- and labour-consuming methods in livestock production.

*Poland's* five-year targets are not fixed. Taking into account the present situation, characterized by significantly smaller herds and restricted feed import possibilities, the supply of animal products will be limited. Rebuilding the herds of bovine cattle will require at least two to three years, and pig breeding and fattening will depend on future harvests of grain and potatoes. Despite good crops in 1981, it is estimated that about 5.5 million tons of grain will have to be imported in 1982 to stabilize meat supplies at present levels.

*Romania* approved a five-year plan for agriculture and the food industry in a separate document, formally distinct from the overall five-year plan. Detailed plan targets for livestock imply increases in cattle numbers by 12.3 per cent, pigs by 30.4 per cent, sheep and goats by 32.7 per cent and poultry by 18.1 per cent between 1980 and 1985. These targets are very ambitious. In cattle breeding, it would mean doubling the pace achieved between 1976 and 1980. In pig rearing, performance would have to equal growth rates in the previous five-year period (around 30 per cent). Sheep and goat numbers would have to increase two and a half times faster than in 1976–1980 and the number of poultry is foreseen to grow by 18.1 per cent (against 24.4 per cent in 1976–1980). Cattle, pig and poultry development will greatly increase fodder, and especially coarse grain, requirements. Investments of over 36 billion lei are planned to back up these objectives during 1981–1985. Equally ambitious targets have been set for meat output, which is expected to rise by an annual average of about 9.9 per cent faster than livestock development. It seems highly questionable that it will be possible to make good these two development targets during the same period—and particularly to bring about such a massive quantitative development at the same time as bringing about the considerable qualitative improvements planned in efficiency through higher yields of meat per animal, reduction of feed inputs per kilogram of meat, etc.

The *Soviet Union* did not indicate plan targets for livestock numbers up to 1985—probably due to the fact that a comprehensive food programme is still being drafted. The programme should lay down relationships between changes in the composition of herds by type of animal, fodder supply, yields per animal and the supply of inputs and processing facilities by related branches and sub-branches within the agro-industry complex. The five-year plan provides for a 3 million ton rise in meat output to bring the total to a minimum of 18.2 million tons by 1985. Taking into account that herds (in conventional units) and meat output in 1976–1980 rose at nearly the same pace (around 6 per cent compared with 1971–1975), it is clear that herd sizes must increase by an annual average of at least 3.5 per cent to achieve a corresponding annual average growth of 3.8 in meat production. Even this presupposes a slight but steady improvement in fodder supplies, and in yields per animal. Lower targets have been laid down for milk production (an annual average increase of 2.4 per cent). This may be achieved by small changes in favour of cows in the cow:cattle ratio—which is currently the lowest in the region.

### (v) Fodder supply

The development of livestock output in eastern Europe and the Soviet Union since the beginning of the 1970s has considerably raised the demand for fodder. Therefore it has been one of the main purposes in all countries during the whole of the 1970s to fill or at least to diminish the gap between animal production and crop production by boosting coarse grain output and achieving better results in other fodder crops, with the dual aims of expanding meat production for domestic consumption and exports, or lowering the burden on trade balances caused by rising feed imports. The rise in the share of intensive livestock production methods in animal husbandry, especially for pigs and poultry but also for bovine cattle, leads to increases in the requirement for fodder with a high nutritional content in relation to weight. This allows the mixing of balanced rations and reduced labour inputs. Therefore, fodder grains play a key role in the feed supply of all countries. This aspect is well illustrated by trends in the output of coarse grains, output of which rose in the region as a whole by 16.1 per cent (13.3 per cent in the east European countries and 17.4 per cent in the Soviet Union) during 1976–1980 as compared with 1971–1975 (see text table below). This was around 5 percentage points faster than the growth of total grain output. In most countries, increasing yields have been recorded (see table 3.2.7). The share of coarse grains in total grain

TABLE 3.2.10

### Basic fodder crops output

(*Annual average in thousand tons*)

| *Country and period* | *Coarse grain and pulses* | *Fodder root crops* | *Green and silage maize* | *Hay of which from:* *Annual grasses* | *Perennial grasses* | *Meadows* |
|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | |
| 1971–1975 | 4 118 | 815 | 4 072 | 40.5 | 1 650 | 629 |
| 1976–1980 | 4 316 | 690 | 4 866 | 24.1 | 2 028 | 659 |
| 1980 | 3 724 | 479 | 4 498 | 34.3 | 2 046 | 698 |
| *Czechoslovakia* | | | | | | |
| 1971–1975 | 4 444 | 2 047 | 11 556 | 680 | 5 472 | 2 994 |
| 1976–1980 | 4 667 | 870 | 14 930 | 890 | 5 239 | 2 938 |
| 1980 | 4 900 | 715 | 14 647 | 1 147 | 6 022 | 3 099 |
| *German Democratic Republic* | | | | | | |
| 1971–1975 | 3 898 | 5 550 | 11 044 | 822 | 3 018 | 3 901 |
| 1976–1980 | 4 320 | 2 401 | 10 951 | 749 | 4 060 | 4 073 |
| 1980 | 4 636 | 1 714 | 11 434 | 937 | 5 176 | 4 068 |
| *Hungary* | | | | | | |
| 1971–1975 | 6 950 | 1 046 | 4 864 | 272 | 2 532 | 562 |
| 1976–1980 | 7 365 | 692 | 6 104 | 256 | 2 647 | 1 924 |
| 1980 | 7 870 | 661 | 6 613 | 266 | 2 862 | 2 171 |
| *Poland* | | | | | | |
| 1971–1975 | 6 674 | 7 827 | 11 914 | 1 346 | 7 433 | 14 700 |
| 1976–1980 | 6 382 | 9 055 | 21 512 | 971 | 7 323 | 14 328 |
| 1980 | 5 927 | 8 044 | 18 000 | 1 109 | 6 980 | 12 381 |
| *Romania* | | | | | | |
| 1971–1975 | 9 460 | 2 060 | 5 187 | 2 347 | 3 062 | 2 416 |
| 1976–1980 | 13 228 | 3 605 | 4 348 | 1 884 | 3 752 | 2 895 |
| 1980 | 13 770 | 2 986 | 3 688 | 1 974 | 3 338 | 3 194 |
| *Soviet Union* | | | | | | |
| 1971–1975 | 75 622 | 40 343 | 223 637 | 28 791 | 43 645 | 47 508 |
| 1976–1980 | 88 798 | 44 193 | 254 123 | 34 848 | 57 921 | 47 348 |
| 1980 | 74 810 | 41 561 | 266 168 | 35 154 | 63 553 | 49 270 |

*Source: CMEA Statistical Yearbook 1981.*

### Structure of fodder crop output in 1971–1980[a]

(*Percentage shares*)

| | *Grain and pulses* | | *Root fodder crops* | | *Roughage* | |
|---|---|---|---|---|---|---|
| | *1971–1975* | *1976–1980* | *1971–1975* | *1976–1980* | *1971–1975* | *1976–1980* |
| Bulgaria | 60.0 | 57.5 | 2.8 | 2.3 | 37.2 | 40.3 |
| Czechoslovakia | 32.3 | 31.3 | 7.5 | 4.2 | 60.2 | 64.4 |
| German Democratic Republic | 27.3 | 30.4 | 19.4 | 13.9 | 52.7 | 55.8 |
| Hungary | 65.4 | 61.1 | 3.6 | 2.6 | 31.0 | 36.3 |
| Poland | 21.8 | 19.2 | 31.9 | 27.7 | 46.3 | 53.1 |
| Romania | 61.0 | 67.2 | 5.4 | 6.7 | 33.6 | 26.1 |
| Eastern Europe | 38.3 | 39.6 | 16.3 | 3.4 | 44.7 | 47.0 |
| Soviet Union | 32.5 | 33.4 | 8.5 | 7.2 | 59.0 | 59.4 |
| Eastern Europe and Soviet Union | 34.3 | 35.1 | 10.8 | 8.9 | 55.0 | 55.9 |

*Source:* Table 3.2.9.

[a] Conventional units; see note to text table at foot of p. 206.

output hence rose in eastern Europe from 48.4 per cent to 50.8 per cent, in the Soviet Union from 41.7 per cent to 43.3 per cent and in the region as a whole from 43.6 per cent to 45.4 per cent in 1976–1980 compared with the period 1971–1975. Changes in output by country can be seen in the text table.

**Output of coarse grain and pulses**

| | *Annual averages, million tons*[a] 1971–1975 | *Annual averages, million tons*[a] 1976–1980 | *Output indices 1976–1980 (1971–1975 = 100)* |
|---|---|---|---|
| Bulgaria | 4.12 | 4.32 | 104.8 |
| Czechoslovakia | 4.44 | 4.67 | 105.0 |
| German Democratic Republic | 3.90 | 4.32 | 110.8 |
| Hungary | 6.95 | 7.37 | 106.0 |
| Poland | 6.67 | 6.38 | 95.6 |
| Romania | 9.46 | 13.23 | 139.3 |
| Eastern Europe | 35.54 | 40.28 | 113.3 |
| Soviet Union | 75.62 | 88.80 | 117.4 |
| Total | 111.17 | 129.08 | 116.1 |

*Sources:* As for table 3.2.1.

[a] Calculated on the basis of figures in thousand tons.

In the southernmost countries (Bulgaria, Hungary and Romania), the increment in coarse grain output was due to maize, whereas in the northern countries barley dominated. The poor performance in Poland is mainly due to the exceptionally low harvest in 1980.

The increases in coarse grain output were not able to narrow the gaps between livestock fodder demand and domestic fodder output, though a further widening of this gap in most countries of eastern Europe was checked. This can be seen from the preceding text table, in which changes in total fodder output are related directly to developments in livestock numbers in 1976–1980 (see also table 3.2.10).

**Fodder output and livestock 1976–1980**
(*Percentages*)

| | *Growth of fodder output*[a] *1976–1980: 1971–1975* | *Growth of livestock*[a] *1976–1980: 1971–1975* | *Ratio of output growth to growth of livestock* |
|---|---|---|---|
| Bulgaria | 109.4 | 111.8 | 97.9 |
| Czechoslovakia | 108.3 | 107.1 | 101.1 |
| German Democratic Republic | −99.7 | 105.7 | 94.3 |
| Hungary | 113.5 | 107.3 | 105.8 |
| Poland | 108.6 | 96.5 | 112.5 |
| Romania | 127.1 | 115.2 | 110.3 |
| Eastern Europe | 110.9 | 105.5 | 105.1 |
| Soviet Union | 114.2 | 106.2 | 107.5 |
| Total | 113.3 | 105.9 | 107.0 |

*Sources:* Tables 3.2.9 and 3.2.10.

*Note:* Basic domestic fodder production includes: feed grains and pulses (nutrient coefficient weighting = 1.0); potatoes and feed roots (nutrient coefficient weighting = 0.2) and roughage (nutrient coefficient = 0.4). Roughage includes only hay from cultivated grassland (annual and perennial), together with silage maize and green fodder. Estimates by the ECE secretariat indicate that these items account for 68–72 per cent of total domestic fodder consumption (in standard oat-based feed units) in eastern Europe and the Soviet Union together—the rest (28–32 per cent) being accounted for by grazing, domestic waste, micro-biological industry feed additives, and of course imported grains, oilseeds and other feed items.

[a] In conventional units.

Bulgaria did not fully succeed in balancing an 11.8 per cent growth in herds by increasing fodder production. In the German Democratic Republic the domestic fodder supply decreased slightly, widening the gap between changes in herds and domestically produced fodder supplies. The case of Poland is exceptional, the high positive ratio being strongly influenced by a 3.5 per cent decrease in livestock numbers.

On the whole, progress was limited and did not relax the tensions in fodder supply, except in Hungary and, to a lesser degree, Romania. In particular, the production of high protein feeds has not increased in line with the total, and previously existing shortfalls in this respect have not been made up or have increased. Countries with traditionally smaller grain production relative to herd sizes (see text table, p. 205) could not balance their missing coarse grain potential by increasing use of other fodder crops.

Compared with feed structures of the period 1971–1975, some changes in domestic fodder crop output took place. The share of coarse grain grew by 0.8 percentage points in the whole region and by 0.9 percentage points in the Soviet Union. The share in the German Democratic Republic and Romania rose by 3.1 and 6.2 percentage points respectively, whereas in the other countries it fell—by 2.5 percentage points in Bulgaria, by 1 percentage point in Czechoslovakia and by 3.8 and 2.6 percentage points in Hungary and Poland respectively. The share of root fodder crops generally decreased, even in the German Democratic Republic and Poland—traditionally the highest producers of these crops in the region. It rose only in Romania (by 1.3 percentage points). The share of roughage gained ground in most countries (between 3 and 5 percentage points), although in the Soviet Union it remained stable and in Romania it fell by 6.5 percentage points.

Limited progress in expanding either the volume or the quality of fodder production obliged most countries to increase their reliance on feed imports, especially of coarse grain, as can be seen from the text table below. Only Hungary and Romania were able to cover their needs from domestic output, and also to export.

The average annual volume of imported feed grains in the region rose from about 8 million tons in 1971–1975 to around 17 million tons in 1976–1980. The German Democratic Republic and Poland, having unfavourable conditions for producing high yielding crops such as maize with a higher protein content, imported quantities equivalent to more than half of their domestic output of coarse grain.

**Average annual net imports of coarse grain in 1976–1980**
(*Million tons*)

| | *Total imports* | *Percentage of domestic output* | *Imports of maize* | *Percentage of maize in total imports of coarse grains* |
|---|---|---|---|---|
| Bulgaria | 0.33 | 7.7 | 0.28 | 84.4 |
| Czechoslovakia | 0.98 | 21.0 | 0.94 | 95.9 |
| German Democratic Republic | 2.45 | 56.8 | 1.77 | 72.3 |
| Hungary | 0.04 [a] | – | −0.17 [a] | – |
| Poland | 3.34 | 52.4 | 1.96 | 58.5 |
| Romania | 0.08 | 0.6 | −0.18 [a] | – |
| Eastern Europe | 7.14 | 11.0 | 4.60 | 64.3 |
| Soviet Union | 9.79 | 11.0 | 9.02 | 92.1 |
| Total | 16.93 | 13.1 | 13.62 | 80.4 |

*Sources: CMEA Statistical Yearbooks; The Grain Situation in 1980/81 and the Outlook for 1981/82.* ECE/AGRI/R.118/Add.1.

[a] Net exports.

The five-year plans for 1981–1985 stress the intention to eliminate or at least to diminish dependence on feed imports by increasing domestic fodder crop output by more rational use of the feed potential of all fodder crops and by a considerable reduction in losses through improvements in processing and storage. Besides quantitative increase, attention is paid to qualitative improvements—in particular, increasing the average energy and protein content per unit of feed outputs. This is also an objective in countries where the quantity of domestic fodder production roughly covers requirements. The improvement of feed conversion ratios to ensure high gains in weight per unit of feed will continue to require high energy and high-protein feed. Researchers have shown that, with properly balanced feed rations (and notably an adequate protein:energy ratio) up to 30 per cent of concentrate feed per unit of livestock production could be saved. Oilseeds are considered the best source for such protein. Taking into account the limited area suitable for these crops in most of the countries, no considerable shifts in favour of oilseed cultivation can be expected. It is questionable whether it will be possible to cover the feed protein deficit by higher output based on higher yields. Bulgaria, Hungary and Romania, where sunflower-seed is the most important oilseed crop, might be in a more favourable situation than Czechoslovakia, the German Democratic Republic and Poland, where rape-seed production predominates. The high acid content of rape-seed prevents the full use of rape-seed meal in animal diets since it is toxic in high concentrations. Rape-seed production also has weather-related constraints. For example, the harsh winter of 1978/79 killed about 49 per cent of the Polish crop and seriously damaged it in other countries. Nevertheless, research is concentrated on developing varieties with reduced acid content. Soya bean cultivation, the third protein-rich crop, is expanding slowly because of high production costs and relatively low yields; Bulgaria and Romania however achieved acceptable results with it on irrigated land.

Though further progress can be assumed in increasing supplies of domestically produced protein demand, it seems to be questionable whether the satisfaction of demand is possible from domestic resources alone. Soya bean imports to supplement the protein component in mixed fodder production will thus maintain their importance. As long as the share of coarse and succulent feeds in the feed ration is not increased, and mixed feed quality is not improved through a rise in the proportion of protein, mixed feed consumption per unit of livestock output will, moreover, remain high. If mixed feed quality is improved and feed conversion ratios lowered, consumption could be reduced. Otherwise, the current high share of grain production used for fodder cannot be reduced.

All countries emphasise the necessity of making better use of the potential offered by succulent fodder and roughage. But progress in this respect has been small and did not relieve the increasing demand for feed grains. Bulgaria, Hungary and Romania, which have relied primarily on increasing grain output through higher yields, will intensify the utilization of grassland and raise production of non-grain field crops. In Czechoslovakia, a partial substitution of roughage for grain in livestock feed during the current plan period will be boosted by shifts towards bovine cattle husbandry. The German Democratic Republic intends to expand the sown area of leguminous crops by 25 per cent, and to improve the quality of at least 10,000 hectares of permanent grassland, so extending the green fodder basis for cattle. Concentrates will be freed for feeding pigs and poultry. Compared with 1976–1980, it is intended to reduce feed conversion ratios by 0.5–0.6 per cent annually during 1981–1985 as a whole.

The Soviet Union is planning a total fodder output in 1985 at levels 25 per cent above those of 1980. In the current five-year period, efforts will be made substantially to improve the production of hay and pastures. The volume of hay during last ten years decreased by some 6 million tons (see table below) equal to roughly 7 per cent although natural pastures cover some 15 million hectares in the Russian Federal Soviet Republic. Non-black soil alone and the total area of natural meadows and pastures in the Soviet Union amount to 330 million hectares.

**Consumption of concentrated feed, succulent fodder and hay on Soviet farms of all types**
(*Million tons*)

| | *Concentrated feed* | *Hay* | *Succulent fodder* |
|---|---|---|---|
| 1970 | 103.2 | 84.8 | 447.1 |
| 1975 | 118.9 | 78.8 | 501.6 |
| 1980 | 143.9 | 78.8 | 585.5 |

*Source: ECOTASS* No. 37, 14.9.1981.

In order to solve fodder problems—and especially protein shortages—increasing attention is being paid, especially in the Soviet Union, to the development of feed additives by the microbiological industry. Over the last plan period, output grew by an average of 11 per cent annually. At present, over 1 million tons of dried fodder yeast—a fishmeat or soya-bean substitute—is produced annually. The objective is to raise output of this protein eventually to 10 million tons a year.[290] Other products of the microbiological industry—for instance, vitamins, lysine, amino acids, ferments and antibiotics—can, if fed in balanced rations, increase the weight gain of animals by 10–15 per cent per feed unit.

To summarize, the following measures envisaged for the feed economy in the region during 1981–1985 should be singled out: increased output, especially of coarse grains, above all through higher yields; the development and application of new high yielding grain varieties with 11–15 per cent higher protein content than in existing varieties; higher production of protein-rich coarse feeds by bigger plantings of feed legumes (feed beans, lupins); increased use of raw and succulent fodder in cattle feeding through extended grazing and better utilization of hay; higher yields of potato and sugar beet, including green mass fodder from beets and other waste products; reduction of losses in quantity and quality of all fodder by the extension and improvement of storage facilities; increases in the supply of protein by the microbiological industry; the use of processed waste products such as straw, liquid manure and kitchen and slaughter-house waste. Beyond that, Romania and the Soviet Union stress the possibilities of using fodder reserves of the forests, which cover large areas of the countries concerned.

Assuming that the countries in the region implement the measures planned, Bulgaria, Hungary and Romania could eventually maintain or achieve a high degree of self-sufficiency in fodder supplies. This seems unlikely for the other countries. Czechoslovakia could avoid fodder imports in good harvest years, but it seems likely that coarse grain imports equal to 50 per cent of the annual average during 1976–1980 (around 500,000 tons) will be needed also in 1981–1985. In the German Democratic Republic the task has been set of cutting feed grain imports by 1–1.5 million tons, or by at least one half, by 1985. The two last-named countries already have the highest levels of per capita meat consumption and are not obliged to expand substantially the volume of output. They can thus concentrate their efforts on rationalizing the structure of output and on higher efficiency. The position of Poland is less favourable. Rebuilding the sharply decreased stocks of bovine cattle needs time—or, in the case of pigs and poultry, high inputs of grain which is in insufficient supply from domestic resources. If meat production is to be maintained, imports of around 5–6 million tons of feed grain annually will be unavoidable in the short term. In the Soviet Union, the comprehensive food programme already referred to will, *inter alia*, cover questions related to the improvement of the fodder base. But the full effects of this programme are not likely to be implemented before the final stage of the current five-year plan at the earliest. Therefore the fodder supply situation during the coming years will continue to be influenced by fluctuation in the country's grain harvests. Even assuming that the planned high increase in yields takes place in the next few years, neither the plans for increasing output of livestock products, nor the required increases in efficiency could take place without imports. Estimates of the size of likely imports of feed grain are not easy, since much statistical detail is missing, but at best a decrease of 25–30 per cent in the average level of coarse grain imports during 1976–1980 could be expected for 1981–1985. In that case, the region would remain a net importer of coarse grain at an average annual rate of 15 million tons during the current plan period.

### (vi) Institutional structure, management and planning

During 1976–1980, changes in the institutional structure, management, planning, incentives and prices took place in virtually all countries of the region.

In many countries of the region the process of *concentration*, by which is meant the merger of existing units into larger ones, was often accompanied by *specialization*. In the collective farm sector, the number of farms decreased and the average land per farm rose (table 3.2.11). Factory farming methods and specialization raised the degree of horizontal and vertical integration. The incorporation of agriculture into a more comprehensive "agro-industrial complex"—including food processing—went ahead.

In *Bulgaria*, horizontal and vertical integration of the large state and collective farms into still larger units was undertaken to promote agricultural modernization and to improve the central planning of agricultural production. This brought into being large complexes engaged in production and sometimes in research, in which the original constituent enterprises—while losing their legal independence—retained their cost-accounting principles (*khozraschet*).

The National Agro-Industrial Complex was converted in 1979 into the National Agro-Industrial Union, whose highest administrative body (Congress) and highest managing body (Central Council) took over the functions of the Ministry of Agriculture, which was dissolved. In 1980 the number of agro-industrial complexes was enlarged and updated into a network of administrative units. At the other end of the scale, agricultural work brigades were reorganized, and enlarged to become responsible for work on land areas of 3,000–10,000 hectares, and given greater operational autonomy. Since 1979 greater flexibility in detailed planning was introduced; compulsory targets in only four indicators[291] were retained, in conformity with the shift to *khozraschet* principles. The decision of the Bulgarian government concerning the valid

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[290] One tonne of yeast makes it possible to save about 4 tons of grain or to obtain an additional tonne of meat. At present, mixed feed in the Soviet Union contains 70 per cent of grain, whereas in other countries the proportion is generally not more than 50 per cent.

[291] Obligatory sales to the state in physical units; norms for payments out of profit to the state; contributions to the development fund; export and import targets.

TABLE 3.2.11

**Number and size of agricultural enterprises**

| Country and period | State farms: Number | State farms: Land in hectares per farm | State farms: Employees per farm | Co-operative farms: Number | Co-operative farms: Land in hectares per farm | Co-operative farms: Employees per farm |
|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | |
| 1970 | 156 | | | 744 | | |
| 1975 | 160[a] | 29 250 | | | .. | .. |
| 1980 | 345[a] | | | | .. | .. |
| *Czechoslovakia* | | | | | | |
| 1970 | 336 | 4 265 | 589 | 6 270 | 638 | 127 |
| 1975 | 250 | 5 684 | 707 | 2 736 | 1 920 | 262 |
| 1980 | 200 | 6 795 | 829 | 1 722 | 2 486 | 395 |
| *German Democratic Republic* | | | | | | |
| 1970 | 511 | 866 | 350* | 9 009 | 599 | 81 |
| 1975 | 463 | 229[b] | 375* | 4 621 | 1 082 | 128 |
| 1980 | 469 | 844 | 430* | 3 496[c] | 1 275[c] | 150 |
| *Hungary* | | | | | | |
| 1970 | 180 | 5 548 | 897 | 2 805 | 1 985 | 355 |
| 1975 | 147 | 6 602 | 1 033 | 1 834 | 3 161 | 423 |
| 1980 | 132 | 1 588 | 1 189 | 1 441 | 3 961 | 511 |
| *Poland* | | | | | | |
| 1970 | 5 356 | 525 | 70 | 1 106 | 222 | 34 |
| 1975 | 3 660 | 838 | 119 | 1 216 | 266 | 49 |
| 1980 | 1 811 | 1 936 | 266 | 2 299 | 310 | 71 |
| *Romania* | | | | | | |
| 1970 | 370 | 2 089 | 292 | 4 626 | 9 033 | 3 376 |
| 1975 | 391 | 2 058 | 251 | 4 649 | 9 047 | 2 813 |
| 1980 | 407 | 2 036 | 200 | 4 643 | 9 061 | 2 195 |
| *Soviet Union* | | | | | | |
| 1970 | 14 994 | 20 800 | 513 | 33 044 | 6 100 | 464 |
| 1975 | 18 064 | 18 900 | 486 | 28 515 | 6 400 | 512 |
| 1980 | 21 057 | 17 200 | 464 | 25 909 | 6 600 | 513 |

*Sources:* National statistics.

[a] Agro-industrial complexes including state farms and co-operative farms.

[b] Land directly used by state farms: the bigger share of land formerly used by state farms was transferred to inter-farm crop farming establishments for cultivation.

[c] Of which 1,047 crop production co-operatives with 4,755 hectares of agricultural land on average.

economic mechanisms laid down for 1981–1985[292] confirmed the principles on which the system of agricultural management and planning introduced in 1979/1980 was based.

In *Czechoslovakia*, state and collective farms are the basic unit of agricultural production. During the 1970s the concentration process was already rapid. But it was halted as it became clear that optimization, rather than sheer size, is the only way to ensure efficiency in agriculture under existing conditions. More attention was paid thereafter to the internal consolidation and restructuring of farms. This approach will be continued during 1981–1985 by the greater attention now paid to differences in regional conditions, and the adjustment of the pace of livestock production development in conformity with the availability of imports, especially fodder. State and collective farms and co-operatives were to remain the basic units of production.

In the *German Democratic Republic*, increased specialization in crop and animal production was a marked feature of agriculture in the 1970s. Besides a number of specialized state farms for research, seed production, breeding or vocational training, specialized crop and animal farming undertakings were established. Joint arable farming establishments created by neighbouring or complementary enterprises were cultivating most of the arable land by 1975. Thus, it is now mainly specialized arable farms which are mainly responsible for supplying fodder to livestock production units in the state and co-operative sector on a contractual basis. The separation of arable production from livestock farming at enterprise level—with the original aim of facilitating the introduction of technology know-how and specialized equipment, has been partly offset by higher transport costs and problems in managing production as a whole. For this reason territorial production brigades centred in villages will, in the immediate future, attempt to co-ordinate the arable and livestock production activities of the two types of enterprise at local level. Co-operation councils, composed of the representatives of participating farms headed by an elected chairman, will organize their work in common. It is the task of the Twelfth Peasants' Congress of the German Democratic Republic, which will take place in May 1982,[293] to give an impetus for developing agriculture.

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[292] G. Filipoy: Report delivered at a Conference in Sofia, reported in *Rabotnichesko Delo*, 15 January 1982.

In *Hungary*, agricultural structure and organization are characterized by the development of production associations and "production systems", together with further concentration of state and collective farms. The number of the latter decreased by around 400 in 1976–1980. As a result of mergers, their average cultivated area increased by 27 per cent to more than 3,900 hectares by the end of the period. Nearly all collective farms are affiliated to one of the approximately 770 associations or to one of the intensive-type production units ("production systems") which now number over 70 in all.[294] Both types of organization are composed of economically independent but contractually linked farms, specializing in particular in agricultural products. At their most advanced stage, production systems include entirely autonomous farms which enter into contracts with the "system operators" for transactions in specific types of commodity. The system operator procures the most important basic machines, fertilizers, sowing-seeds and gives technical advice. Member farms pay for these services to the extent that the "guaranteed" surplus yields materialize. Most of the production systems relate to crop cultivation but they are now gaining ground in livestock production. (This organizational summary excludes the 1.5 million small farms, auxiliary farms and individual plots.)

In contrast to the other east European countries, private farming accounts for the bulk of production in *Poland*. The share of privately held agricultural land accounted, on average, for 75.9 per cent of total agricultural land during 1976–1980.

Most private farms are very small as can be seen from the following breakdown on the basis of the latest available 1978 census. Out of a total of some 3.1 million private farmers, 60 per cent worked less than 5 hectares of land, 26.4 per cent had between 5 and 10 hectares, 9.2 per cent farmed 10–15 hectares, and only 4.5 per cent farmed more than 15 hectares.

During 1976–1980, there was a shift of around 5 per cent of agricultural land from the private sector to the socialized sector, due to deteriorating age structure of private farmers and changed regulations for pension eligibility. This development ceased in 1980 with the equalizing of socialized and private farmers' conditions and when the input pricing systems were changed to remove former discrimination in favour of the state and collective farms. Current organization of Polish agriculture will probably remain relatively stable during the recovery period. Agricultural activities will be based on market relations between producer and consumer without an intermediary compulsory procurement system.

In *Romania*, the organizational structure of agricultural undertakings stayed relatively stable during 1976–1980. At the end of this period, agricultural councils were established at national and regional levels in order to improve coordination of the activities of state and co-operative farms, as well as other enterprises dealing with agricultural production and processing within the national "agro-industrial complex".

The plan stresses regional self-sufficiency in a new way. "Industrial-agrarian" centres have been established, which include, in addition to urban settlements, neighbouring rural localities. The aim is to raise the general economic level of villages and rural areas by the implantation of larger administrative and economic units to process and market farm produce, to ensure local employment and to turn these localities into agricultural towns.

A characteristic feature of agricultural development in the *Soviet Union* was the maintenance of the basic structure of state and collective farms, together with the creation of an increasing number of specialized joint farm enterprises for livestock rearing, including the preparation of mixed feed for use on farms, and also for construction and other activities. At the beginning of 1981 the number of interfarm agricultural enterprises in the Soviet Union was 13,200.[295] Another trend has been to create production associations in which member farms pool their resources to specialize in arable and livestock production. Data are lacking for the Soviet Union as a whole, but the example of Lithuania demonstrates a general trend. Here, all collective and state farms have now been organized into 264 production associations. It is expected that this will facilitate a 10 per cent annual increase in the production of meat and milk throughout the current five-year plan. These changes were accompanied by changes in the organization at the central or all-Union level: a new specialized Ministry of Agricultural Construction, and a State Corporation for Agro-chemical Services, were established in 1979. In the current five-year plan period, unlike in the preceding ones, the development of agriculture is being planned in conjuction with the development of those industrial branches which, with agriculture, make up the nation-wide agro-industrial complex. At enterprise level, the number of centrally determined plan indicators has been reduced, beginning in 1981. For collective farms, only state procurement and the supply of basic inputs will be planned centrally. State farms are handed down plan indicators for wage bonuses, profit and investments. The development of management and planning is likely to be influenced by the new ideas which emerged during the drafting of the complex food programme and its implementation in 1981–1985.

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[293] The draft resolution of this Congress and the draft of a new law on agricultural co-operatives is published in *Neues Deutschland*, December 19/20 1981.

[294] *New Hungarian Exporter*, June 1980, vol. 30, No. 6.

[295] V. Prossin: "Management of agricultural production". *Planovoe Khozyaystvo*, 1982, No. 1, p. 100.

Changes in the *price formation and incentive system* took place in all countries, or were prepared for the five-year period 1981–1985. *Bulgaria* established new wholesale prices, based on world market prices in 1980, and a second round followed on 1 January, 1981 with respect to procurement prices in agriculture.[296] All units in the national agro-industrial complex are working on the basis of *khozraschet* cost-accounting principles.

*Czechoslovakia* introduced higher procurement prices for cattle and milk on 1 January 1980 and parallel price rises for mixed fodder and fertilizers. Because of further cost increases in agricultural enterprises, the procurement price system is being changed once more in 1982.

The *German Democratic Republic* did not change the aggregate level of agricultural prices during 1976–1980. On 1 January, 1981 higher prices were introduced to stimulate grain and fodder crop production as well as beef and veal production and milk output. On the other hand, full compensation for the higher prices of spare parts and repairs has been reduced to 50 per cent, in order to stimulate careful and efficient work with agricultural machinery and equipment. The system of taxes of co-operatives according to soil conditions has been rebased on net income—instead of the previous gross income base. A major objective of these measures is to reduce the existing profitability differentials in agricultural production.[297]

*Hungary* has gradually raised agricultural prices in recent years. The system of competitive prices, introduced in the economy in 1980, was not applied to agriculture, but state support for large farm investment projects was reduced. From 1 January, 1981 new higher prices for capital equipment and materials used in agriculture were implemented and government subsidies for energy have been abolished. Procurement prices increased on average by 5 per cent for arable and livestock products. A new system of price and financial regulators was announced for 1982. The measures contain incentives for grain production and for the development of backward farms. Beef cattle production, land improvement and grain storage will be promoted. Stricter regulations will be applied as regards the creation of enterprise incomes, the sources of investment, resources from enterprises' own funds and from credit.

*Poland* raised the purchase prices of some crop products after 1977. The intention to align producer costs with prices and consumption levels of meat in 1980 was not implemented. Some producer price changes introduced in 1981 are of an interim character, and will be changed in 1982 within the framework of a series of price changes including industrial, agricultural and retail trade prices. A system of incentives for raising agricultural production is envisaged, linking the supplies of inputs to farms' net marketed production per hectare. Further measures will also be introduced in connection with the new economic mechanism introduced for the national economy as a whole. A new financial and economic system for collective farms and agricultural circles, which guarantees their complete independence, came into force on 1 January 1982. It is based on the cost accounting (*khozraschet*) principle already in force in state farms since 1 July 1981.

Following some adjustments in the prices of agricultural products and inputs, *Romania* increased contract and production prices for agricultural enterprises by 11.8 per cent in 1980/81. The tariffs of agricultural machinery stations also, were brought in line with real costs. From the beginning of 1982 higher contract and procurement prices, which increased by 30 per cent on average, were introduced for livestock production. A bonus system for stimulating quantitative over-fulfilment of plan indicators was introduced, and also quality supplements reinforced financial performance incentives. Deliveries of produce to the state determine enterprises' access to credit, and also possibilities for the purchase of certain inputs such as selected seeds, fertilizers, concentrated feeding stuffs and specialized technical aid, as well as the granting of tax allowances and exemptions.

The *Soviet Union* increased agricultural producer prices between 1975 and 1979 by 5.1 per cent, mainly for livestock products. Some further adjustments followed in 1979. From the beginning of 1981, the 50 per cent premiums paid to producers for over-fulfilment of procurement plans were consolidated with procurement prices. Price supplements of 50 per cent are paid to producers who increase sales of agricultural products over the previous year's level. In 1981 a decision came into force to stimulate production of buckwheat, millet, haricot beans and lentils. Procurement prices have been raised by 50 per cent for haricot beans and by 100 per cent for lentils. Additional payments were introduced for high quality products. Barter type transactions are also provided for, on the basis of 1 quintal of mixed feed for 1 quintal of beans or lentils.

All countries in the region are currently promoting auxiliary *private agricultural production*, despite its varying importance and character between different countries. Production on household private plots, by gardeners' associations, etc. is also to be encouraged during the current five-year plan period with a view to the fullest possible exploitation of all land resources.

In *Bulgaria*, private household plots produced between 20 to 30 per cent of total agricultural output during 1976–1980, including between 30 and 50 per cent of total output of potatoes, root crops and fruits. Their importance in livestock production is declining but still considerable, so that they accounted for between 20 and 40 per cent of procurements in meat, milk, eggs and wool. A special department has been set up within the framework of the National Agro-Industrial Union to promote the interests of small-scale private farming.

In *Czechoslovakia* and the *German Democratic Republic*, the share of individual plots, gardeners' associations and small livestock breeders in total agricultural output is relatively low (about 10 per cent) but still considerable in the case of certain products. Nearly 100 per cent of rabbit meat and around 30 per cent of eggs in state procurement of the German Democratic Republic are supplied from individual plots. New price regulations were announced, designed to stimulate higher production of honey and rabbit meat, from 1 July 1981. Private production is mostly a spare time occupation.

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[296] Decree published in *Rabotnichesko Delo*, 15 December 1980.

[297] Decision on the Further Development of Socialist Agriculture; *Bauern-Echo*, 6 and 26 July 1981.

In *Hungary*, small scale farming plays an important role. Small farmers produce about 33 per cent of the total agricultural output from about 10 per cent of the land. They work in association with the agricultural co-operatives which sell them livestock, seed and other supplies. Small farmers own more than half of the national pig herd, more than one-third of poultry, and nearly a quarter of the beef cattle. Their cows supply 31 per cent of milk production, and the small farmers also provide about 10 million tons of fruit, vegetables and grapes annually. Large agricultural enterprises sold around 4 million tons of fodder to small producers. Agricultural workers represent less than half of the roughly 680,000 small scale farmers: 1 million industrial workers and more than 1 million pensioners also participate. In 1981, the taxation of household plots and private auxiliary holdings was modified to promote pig farming. Every such farm is now able to rear up to 68–70 pigs and sell them without liability for tax.

In *Poland* small scale farming within the dominating private sector plays and will play an important role, especially in certain regions of the country. Some 30 per cent of the total number of private farms are smaller than 2 hectares. They are mostly located in industrialized regions. Here farming is normally either a second occupation, or is carried out by women or otherwise employed as a source of food or additional income.

In *Romania*, private agriculture is practised above all in hilly and mountainous areas. About 585,000 individual farms exist, holding 1.4 million hectares of arable land. Their livestock includes more than 1 million head of cattle, 2.3 million sheep and 900,000 pigs, and they supply some 13.5 per cent of total meat production, 22 per cent of cows' milk, 17.2 per cent of eggs and 20 per cent of potatoes. Agricultural machinery stations are now to be established in these regions to serve these farms and a full range of machinery capable of operating in these conditions is to be manufactured. Good breeding stock and high-yielding seeds are to be provided. Co-operation between individual farms is being improved by the establishment of producers' councils and stock breeders' associations, and their co-operation with the socialist sector is being promoted.

Private auxiliary farms are of considerable importance in the *Soviet Union*. Although they account for only 4.9 per cent of the fixed assets deployed in Soviet agriculture as a whole, they produce more than 25 per cent of total agricultural output, as can be seen from the table below.

**Share of agricultural production of the socialized sector and individual auxiliary farms**

*(Based on constant prices 1973, per cent)*

| | *Output of the socialized sector* | *Output of individual auxiliary farms* |
|---|---|---|
| 1970 . . . . . . . . . | 70.3 | 29.7 |
| 1975 . . . . . . . . . | 71.7 | 28.3 |
| 1979 . . . . . . . . . | 73.5 | 26.5 |

*Source:* I. Shmelgoy. *Voprosy Ekonomiki*. 1981 15 (in Russian).

In crop production, private plots produced about 60 per cent of the total output of potatoes and 42 per cent of fruit in 1979. In livestock production they take an important place in pig, poultry and rabbit breeding and rearing. In 1979, about 96 per cent of the total rabbit meat, about 40 per cent of total pig and poultry meat and 17 per cent of total beef and veal were supplied by these plots.

The production profile of the private plots is regionally very different and so is their share in the total production of individual products. About 94 per cent of all wool is produced in individual farms in Estonia, but only 4 per cent in the Byelorussian SSR.

Output per hectare is often higher on the private plots than in socialized agriculture. One reason is the higher labour productivity despite lower fixed asset intensity. The share of marketed production is generally lower, since a large proportion is consumed by producers. The structure of owners is similar to that described above for Hungary and other countries. The majority are worked by collective and state farm workers, but their share is decreasing whereas the share of workers and employees of other sectors and branches is increasing. The role of private auxiliary farming is expanding with regard to the supply of a number of products. About 25 per cent of farms in the socialized sector do not, for instance, breed or fatten pigs and 64 per cent of the farms have no poultry, and promotion of production on private plots is a substantial element in production plans during the current five-year plan. As in Hungary, it is intended to develop closer links between the private and socialized sectors and to establish relations based on long-term contracts. The Decision of the Council of Ministers and of the Central Committe of the CPSU "On Addition Measures to Expand the Production of Agricultural Products in Individual Farms of the Citizens" (January 1981) points in this direction, and contains measures to promote this type of farming. It centres upon the supporting role of state and collective farms with regard to private plots, and access to state bank credits for workers engaged in private agriculture.

All in all, auxiliary farming is expected to increase the absolute level of its output, in some cases the relative one too, but mostly in one or other form of co-operation with the socialized sector.

### (vii) Agricultural output in 1981 and planned development in 1982

In *Bulgaria*, gross agricultural output rose by 4 per cent in 1981. After a disappointing performance in

1980, crop production recovered strongly; grain output increased by 11.4 per cent and nearly 8.6 million tons were harvested—the highest result recorded up to now. Output of sunflower seeds grew by 17.9 per cent, vegetables by 5.9 per cent and fruit by 11.3 per cent. Livestock product output developed at a slower pace, meat output rising by 1 per cent and milk by 1.4 per cent over 1980. Similarly, livestock numbers grew only marginally, reflecting the inadequate fodder basis resulting from the crop production in 1980, though the number of sheep increased by 2.8 per cent. Poultry numbers, on the other hand, fell by 2.6 per cent.

Data on supplies of agricultural inputs in 1981 are not yet available except for fertilizer; 198 kilogrammes of mineral fertilizer were applied per hectare of arable land—somewhat lower than levels in 1979 and 1980. The intention is to raise the volume to 229 kg per hectare in 1982, when gross agricultural output is planned to increase by 2.2 per cent over 1981. The main objective in 1982 is the promotion of grain output on the basis of intensified production, especially by stabilizing and increasing maize output. In the field of management, a new scheme to improve the degree of local self-sufficiency in food products will be introduced in 1982 with the aim of cutting down unnecessary transport costs. Each area (*okrug*) will henceforth have to meet a centrally determined share of its population's requirements for livestock products from its own resources. To promote the production of meat on household plots, the state procurement prices of almost all animal husbandry produce obtained from fodder produced on these plots were increased with effect from the beginning of 1982.

In *Czechoslovakia*, gross agricultural output decreased by 3.4 per cent in 1981, due to a 7.1 per cent fall in crop production. Grain output, at only 9.4 million tons, was 1.6 million tons below plan. Unsatisfactory results were also registered in output of sugar-beet, crude fodder, fruit and vegetables. No change took place in animal output, and the average slaughter weight of cattle and pigs, as well as yields of milk per cow, decreased. Although livestock numbers fell—due notably to a reduction of 120,000 and 500,000 in the cattle and pig herds respectively —fodder supply problems seem to be unavoidable in 1982. Fertilizer deliveries (1.7 million tons) were slightly below the 1980 level. Drainage and irrigation work took place on 75,000 hectares. For 1982, some structural changes in output are envisaged—notably, a rise in the share of grain and high-yielding crude fodder crops in total arable output. The share of output produced on the basis of high concentrate fodder (pigs and poultry) in total meat output is to be reduced, while cattle breeding and fattening will be favoured. A new industrial enterprise will be established in order to improve the supply of spare parts for agricultural equipment. Price increases for industrial and agricultural products are designed to promote higher efficiency in agricultural production.

In the *German Democratic Republic*, an estimated 3 per cent growth of agricultural output was recorded. Crop output on the whole was good, but the roughly 9 million ton grain harvest, based on average yields of 36 quintals/ha., fell some 0.5 million tons below the level of 1980. Crop output as a whole decreased by an estimated 0.3 per cent compared with 1980. However, the harvest of potatoes, suger-beet, green and silage maize and fodder crops was above plan and also above the average of the last ten years. Record livestock output was achieved in 1981. Taking into account the high above-plan and record levels of state procurements of meat, an increase of around 5 per cent over production in 1981 seems likely. Hence, meat consumption may have increased to more than 90 kilograms per capita in 1981. For 1982, an increase of only 0.2 per cent in gross agricultural output (including forestry and the food industry) is planned. Priority will be given to increasing yields per hectare of grain and fodder crops and, in addition, to reducing, faster than originally planned, the level of grain imports needed to ensure fodder supplies. In order to equilibrate fodder supplies with domestic output, it is intended that the procurement of livestock products will remain approximately unchanged between 1982 and 1985. This implies, *inter alia*, further progress in the silage construction programme, which is designed to expand the 16 million m$^3$ capacity built during the last 3 years by a further 4 million m$^3$ and hence, to reduce losses of succulent fodder by at least 10 per cent. Through effective land utilization programmes, it is envisaged to raise crude fodder crop yields and reduce its area in favour of grain production. Further measures to develop agriculture were expected to follow the Twelfth Peasants' Congress, to be held in May 1982.

In *Hungary*, gross agricultural output stagnated in 1981. Crop production decreased by 2.4 per cent. Grain output was 8.6 per cent lower than the record harvest of 1980. Unfavourable weather conditions and problems in fertilizer supply lowered the yields of wheat per hectare by some 16 per cent. Maize output increased by 4.4 per cent. But it has been reported that in spite of reduced crop output, fodder supplies for the increasing livestock herds remained adequate. Livestock output increased by 2.2 per cent in 1981. In 1982, gross agricultural output is planned to grow by 4.0–4.5 per cent. Higher yields both in crop and animal output are envisaged. Recent decreases in the area sown to grain are to be reversed by an extension of 10 per cent in 1982. A 10 per cent target is set for the increase in the fertilizer supply. The prices of agricultural inputs of industrial origin and purchase prices of agricultural products were fixed at levels on average 5 per cent higher (slaughter animals and cereals above average). A new regulatory system came into force on 1 November 1981 which will reduce the total income of agriculture from the State budget by 5 per cent in 1982, in order to stimulate higher efficiency. Collective farms working under poor conditions, however, will be further assisted. The plan stresses the improvement of relations between large agricultural enterprises and household plots, in order to facilitate the development of cattle-breeding and pig-rearing by small producers.

In *Poland*, as a result of favourable weather conditions in comparison with the exceptionally difficult year 1980, the harvest of cereals and root crops increased, and there was a 4.1 per cent increase in gross agricultural production in 1981. Crop output was 20.3 per cent higher than in 1980. However, due to the shortage of fodder and cutbacks in imports of cereals and fodder, there was a considerable (12.5 per cent) fall in the total output of livestock products. In June 1981, a marked drop in herd numbers also occurred, which was apparently arrested in the second half of the year. Even so, meat output fell by 19.2 per cent in 1981 compared with 1980. The difficulties of supplying agriculture with equipment and material inputs grew in 1981, with particularly severe shortages of spare parts for tractors and agricultural machinery. Nearly 4 per cent less fertilizer was used than in 1980. For 1982, the task has been set to increase the production of grains, meat, milk and processed products by making the greatest possible use of domestic resources. On the basis of long-term weather trends, agricultural output is expected to increase (grain output to 21 million tons, sugar beet to 15.2 million tons, potatoes to 43 million tons) but prospects for livestock product output remain poor. Government policy is to raise the supply of plant protection chemicals, simple agricultural tools and machines and to maintain deliveries of fertilizer at the 1981 level. A special programme for the reorientation of industrial output toward satisfying the requirements of agriculture was adopted. The new price system is designed to offset the considerable rise in agricultural production costs by increasing procurement prices (on average by 21 per cent) and also by raising subsidies for fertilizer, plant protection chemicals, machines and services. On the whole, it is estimated that outlays by farmers will increase by around 160 billion zlotys, and the value of commodity production of agriculture by more than 180 billion zlotys.

In *Romania*, gross agricultural output fell by 0.9 per cent and net agricultural output by 2.2 per cent in 1981. Due to unavourable weather conditions and unsatisfactory work in sowing and harvest, yields of all crops remained at the level of 1980 or fell slightly below it. Thus, 20 million tons of grain were harvested, 0.3 million tons less than in 1980, and livestock numbers decreased. As a result, a rationing system for basic food items was introduced in 1981. More than 2,000 tractors were delivered to agriculture. Fertilizer use increased from 1.2 million tons in 1980 to 1.6 million tons, but did not result in any increase in yields. In 1982, gross agricultural output is planned to increase by 6.0–7.9 per cent and net output by 6.8 per cent. Priority attention is to be given to cereals, production of which is planned to reach 24 million tons, consisting of more than 6.6 million tons of wheat and rye and 13.3 million tons of maize. The share of livestock output in total agricultural production is expected to rise to 48 per cent in 1982 (44.9 per cent in 1980). The planned targets for livestock output (some 2.8 million tons of meat) and livestock numbers are slightly below the originally planned figures for 1981, thus confirming the disappointing performance in 1981. Investments financed by state and collective farms are planned at 42.8 billion lei in 1982. Agricultural machinery stations, up to now separately managed, have been subordinated to agricultural enterprises. A new law on labour remuneration in collective farms has been put into effect, raising collective farmers' incomes by about 25 per cent. At the beginning of 1982, agricultural prices were increased by 30 per cent, in line with the rise in production costs.

The *Soviet Union* suffered its third consecutive bad harvest in 1981. During 1981, the agro-industrial complex received 37 billion roubles of investments (27 per cent of total investment in the national economy) and the sector's productive potential was considerably expanded. Some 19.2 million tons of mineral fertilizer—406,000 tons more than in 1980—were used. But severe drought heavily affected agricultural production, and gross output decreased by 2 per cent. At 9.6 million tons, the output of raw cotton almost equalled the top record result recorded in 1980, but other crops fell below the already modest levels harvested in 1980. Only 60.6 million tons of sugar beet were harvested. Output of potatoes increased slightly to 72 million tons. The poor grain harvest affected the development of animal husbandry. There was a small increase in cattle and cow numbers, but the pig herds, which are highly dependent on output of coarse grain, decreased slightly. Output of meat rose slightly from 15.1 million tons in 1980 to 15.2 million tons in 1981. Output of milk fell to 88.5 million tons, mainly due to decreasing yields per cow.

The plan for 1982 has set very high targets for agriculture. Gross agricultural output is scheduled to rise by 10.2 per cent over average performance in 1976–1980. No detailed figures for arable and livestock production are given in the plan document. Priority is given to grain and fodder production. To back the plan targets, some 37 billion roubles of investments have been allocated for 1982, of which 9.9 billion roubles for land reclamation. The total amount set aside to finance state procurement of farm produce is planned to climb by 4 billion roubles. State agricultural enterprises are to be allowed to use nearly the whole profit earned to improve production potential and to establish or enlarge performance-based bonus awards to employees.

# 3. INDUSTRY

## (i) Growth of industrial output in the region

During 1976–1980, industry was the fastest growing sector of the economy in all the countries under review, gross industrial output for the area as a whole rising at an average annual rate of 4.9 per cent. This represents a slower pace than the 7.8 per cent attained in the preceding period, industrial performance in the second half of the 1970s having been adversely affected by more restricted and more costly inputs. This reflected in part conditions on the world markets which resulted in adverse terms of trade movements for all east European countries; domestically, a rapid deceleration in the rate of growth of labour supplies was compounded by more restricted investment resources as NMP growth rates declined (chart 3.3.1).

The aggregate 4.9 per cent growth rate for the whole region during 1976–1980 covers a rather wide spectrum of performance in individual countries (table 3.3.1)—where rises ranged from an average annual rate of 3.4 per cent in Hungary to 9.5 per cent in Romania—though all the countries' growth experienced some decline compared with the preceding quinquennium (see text table).

**Growth of industrial output**
(*Average annual percentage change*)

| | | *1976–1980* | | *1981–1985* |
|---|---|---|---|---|
| | *1971–1975* | *Plan* | *Actual* | *Plan* |
| Bulgaria | 9.0 | 9.2 | 6.0 | 5.1 |
| Czechoslovakia | 6.6 | 5.7–6.0 | 4.5 | 2.7–3.4 |
| German Democratic Republic | 6.5 | 6.0 | 4.9 | 5.1 |
| Hungary | 6.4 | 6.0 | 3.4 | 3.5–4.0 |
| Poland | 10.4 | 8.2–8.5 | 4.7 | . . |
| Romania | 12.9 | 10.2–11.2 | 9.5 | 7.6 |
| Soviet Union | 7.4 | 6.3 | 4.5 | 4.7 |
| Eastern Europe and Soviet Union | 7.8 | 6.3 | 4.9 | 4.5 |

*Sources:* National statistics, *CMEA Statistical Yearbooks*, plans and plan fulfilment reports.

The *planned targets for industrial production for the period 1981–1985* embody a moderation of growth rates for the region as a whole, and are, in some cases, based explicitly on the probability that the growth constraints which appeared in the second half of the 1970s will persist. Growth is projected at lower rates than in the previous plan period in Bulgaria, Czechoslovakia and Romania; by contrast in the German Democratic Republic, Hungary and the Soviet Union the rate of industrial expansion foreseen has been set slightly higher than was reached during the preceding five-year period. The planned rates of growth of industrial production are highest in Romania (7.6 per cent annually), followed by Bulgaria, the German Democratic Republic and the Soviet Union (within a range of 4.7–5.1 per cent) (table 3.3.1).

Basic objectives of the growth rates set are illustrated by the projected structural pattern of industrial output. A particular high priority is the adjustment of production to the changing conditions on foreign markets, most countries stressing, implicitly or explicitly, the role of industry in improving external equilibrium by the promotion of export industries and also of branches capable of producing import substitutes.

A further important objective is the continued expansion of *consumer goods industries.* This is expected to be achieved both qualitatively—by improving the range of consumer goods produced—and also by increases in consumer goods production growth at rates much closer to those retained for producer goods production.

As stressed in almost all countries' five-year plans, the transition of industrial expansion into an intensive path of development is the main condition for the successful implementation of industrial strategy. Intensification plans are linked in a very direct way to growth outcomes. Specific targets are provided in most countries, for a wide range of performance determinants; labour and fixed asset productivity; input reductions per unit of output; the development of science and technology and their rapid absorption by enterprises; and intra-CMEA co-operation designed to rationalize the division of labour and the allocation of resources within the CMEA area. Although plans for the 1976–1980 period laid down guidelines to the same end, they were not given the central role which they occupy in the current five-year plans.

*Plans for 1982* in east European countries envisage industrial production growth at rates slower than planned for the 1981–1985 period as a whole (see text table on p. 218).

CHART 3.3.1

**Industry: output and factor inputs**
(*Indices, 1973–1977 = 100*)

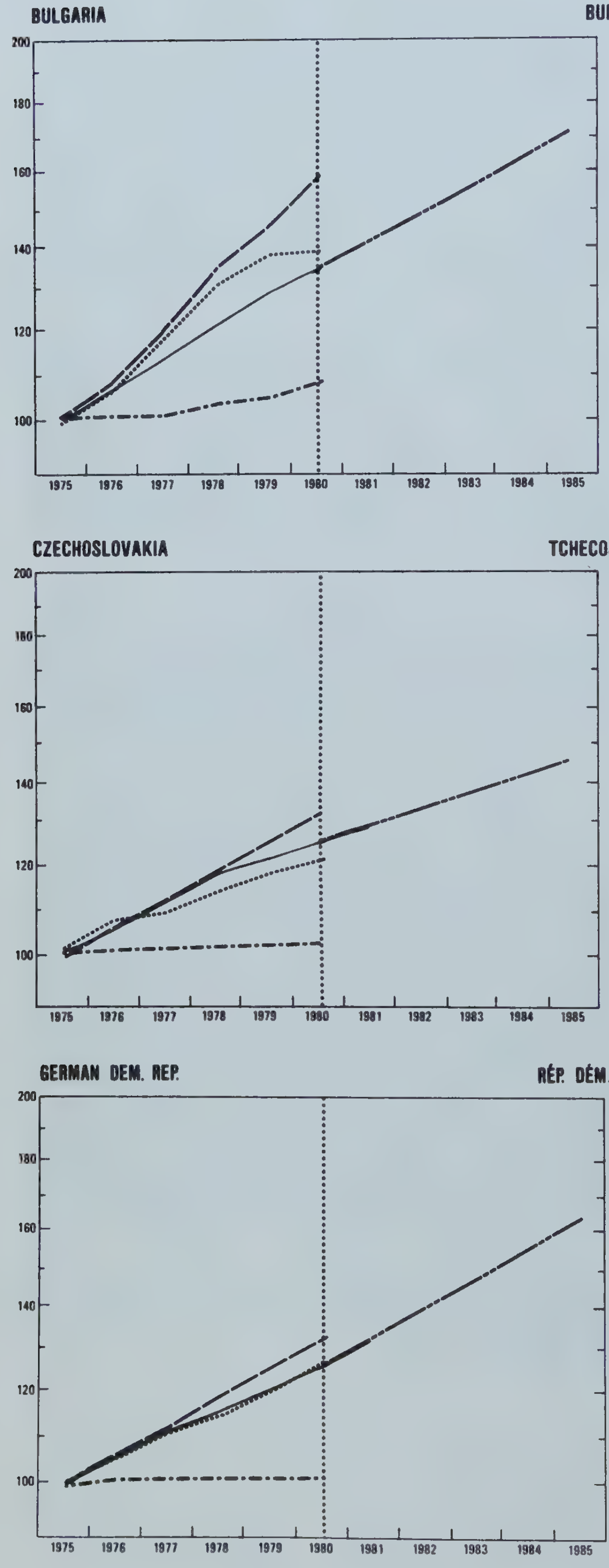


CHART 3.3.2

**Industry: efficiency indicators**
(*Indices, 1973–1977 = 100*)

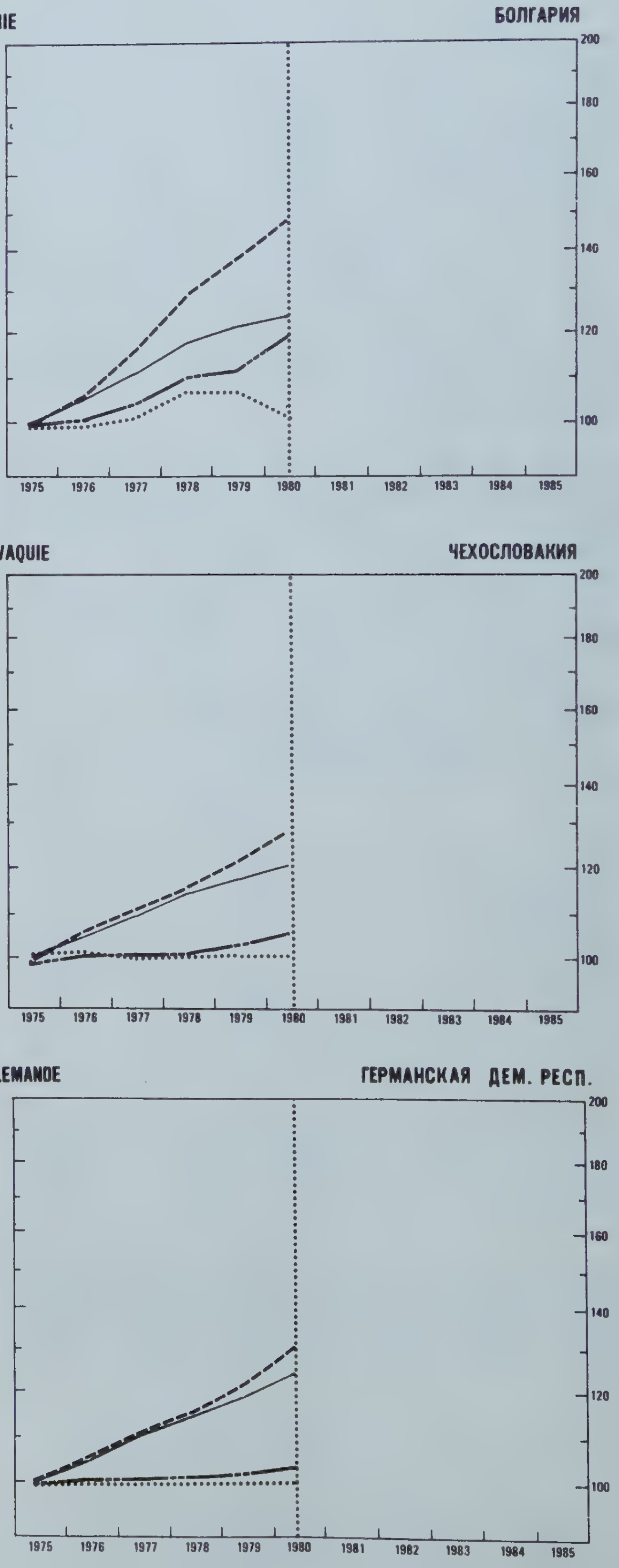


CHART 3.3.1 (*continued*)

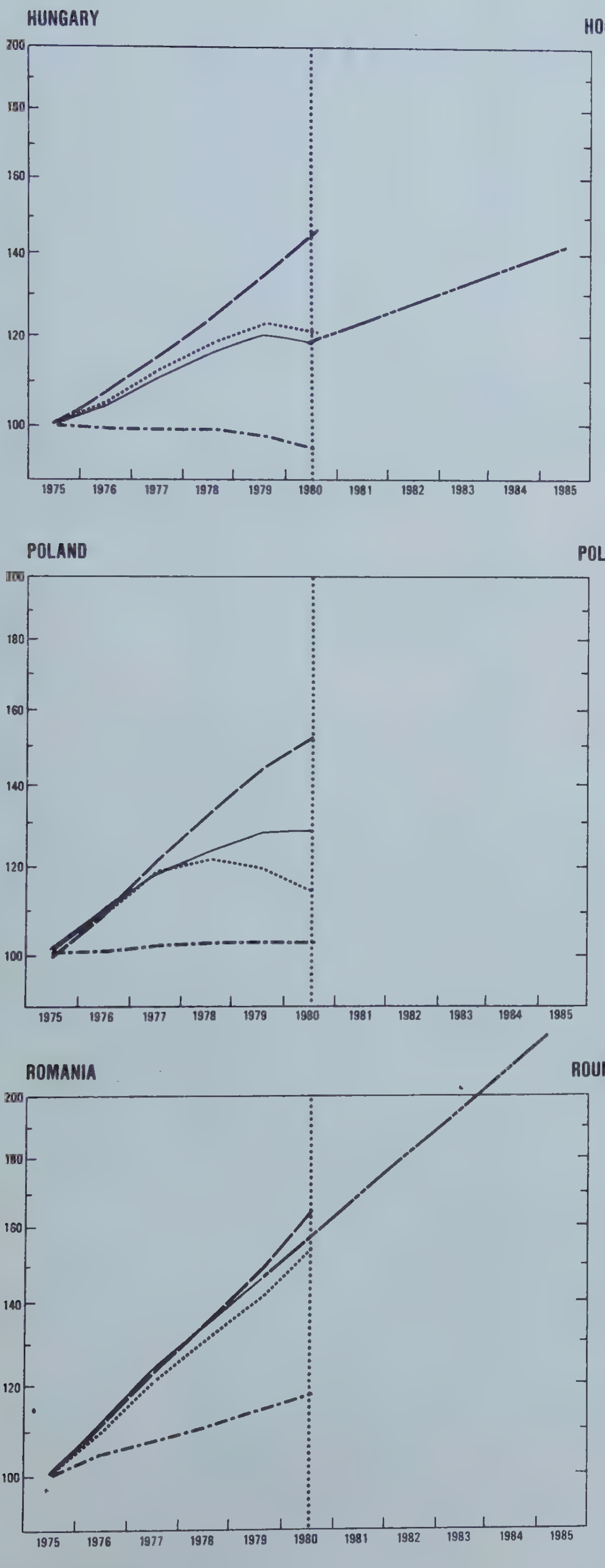


CHART 3.3.2 (*continued*)

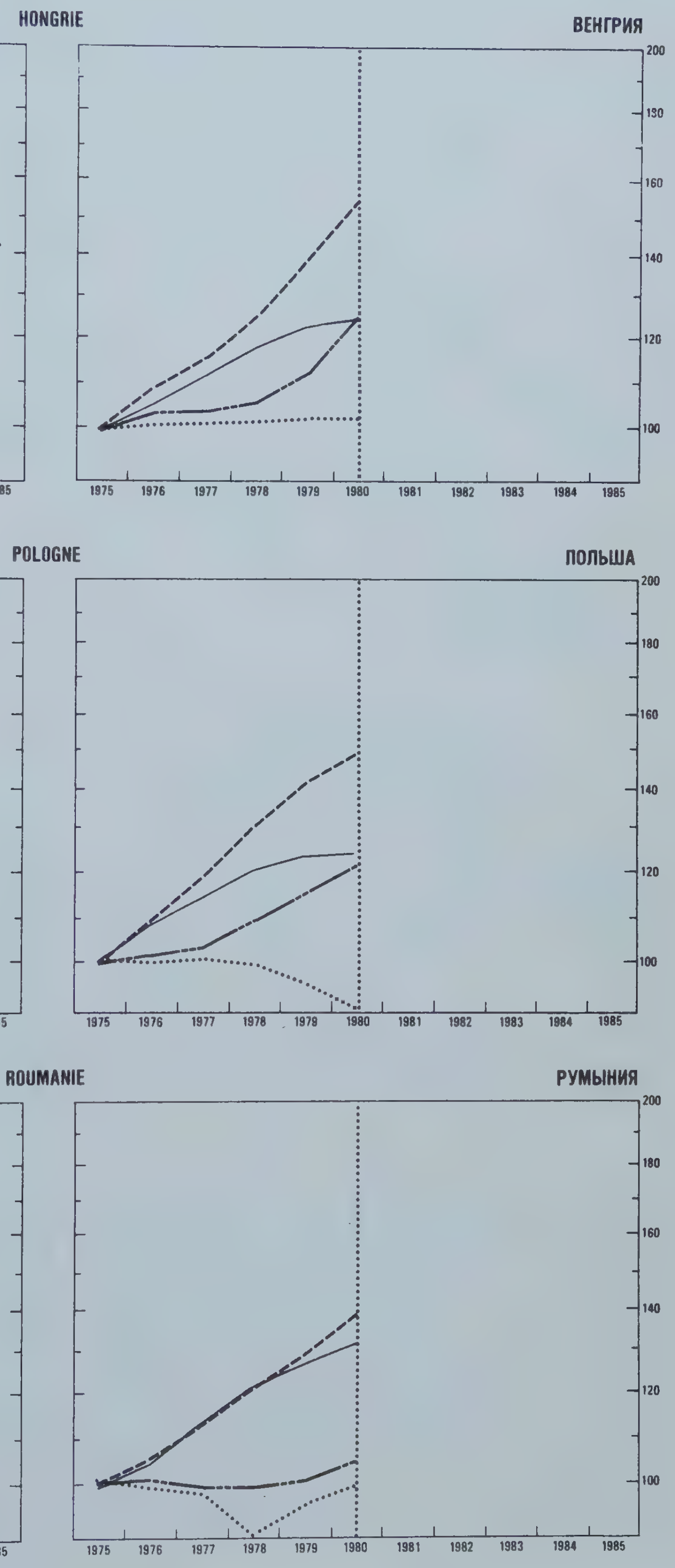


CHART 3.3.1 (*concluded*)

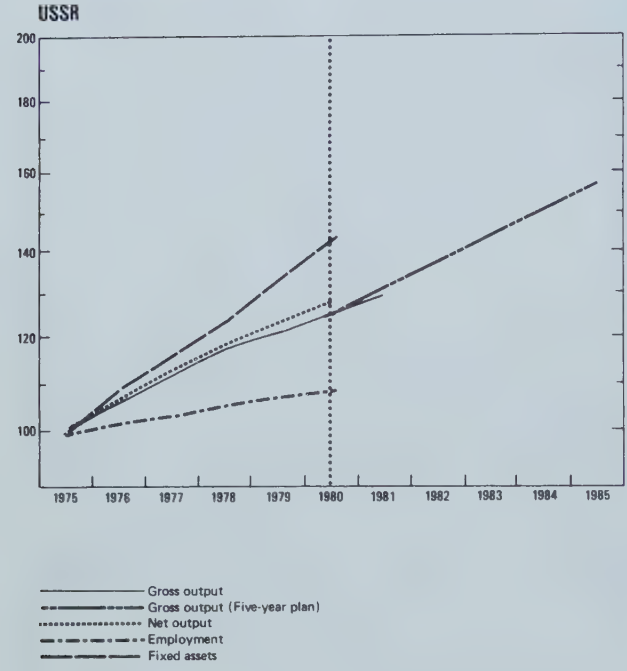
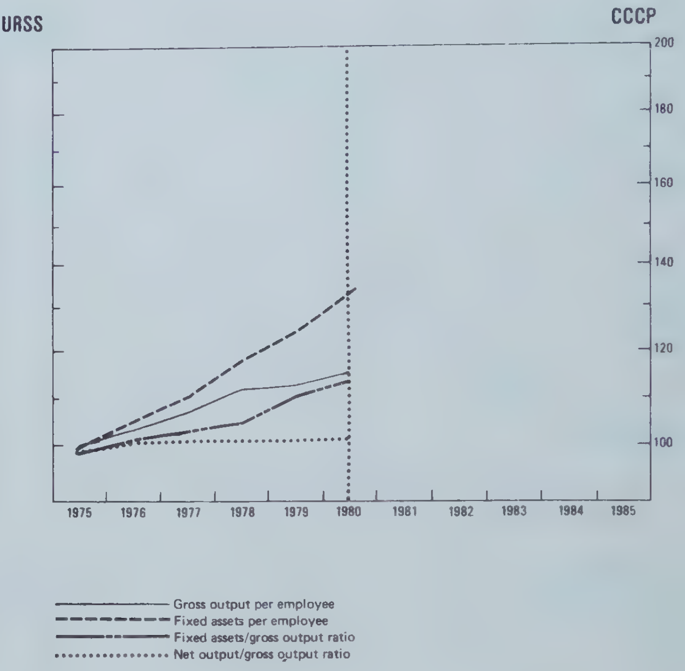


CHART 3.3.2 (*concluded*)



**Gross industrial output**
(*Average annual percentage change*)

| | *Plan 1981–1985* | *Plan 1982* |
|---|---|---|
| Bulgaria | 5.1 | 4.5 |
| Czechoslovakia | 2.7–3.4 | 0.6* |
| German Democratic Republic | 5.1 | 4.6 |
| Hungary | 3.5–4.0 | 2.0–2.5 |
| Poland | . . | −(8 −10)* [a] |
| Romania | 7.6 | 5.6 [b] |
| Soviet Union | 4.7 | 4.7 |

*Sources:* National plans.

[a] 1st quarter 1982 over 1st quarter 1981.

[b] Net output.

The short term targets for industrial production reflect the complexity of economic conditions in 1981 and 1982. Plans for the conservation of energy and raw materials, both of which remain in short supply, cannot be put into operation with significant results during the course of the first two years of the plan, and a comparison of annual targets for 1982 and five year plan objectives with actual performance in 1981 suggests that an acceleration of industrial percentage growth rates is apparently foreseen in the final years of the plan period. A particular condition of development according to this timing would be the attainment of the improvements planned with regard to the foreign trade sector.

### (ii) Factor inputs and efficiency trends

Plans for 1976–1980, and again the plans for 1980–1985, stressed the importance of intensive growth factors, and the attainment of the planned indicators in this respect will be a precondition for reaching the desired level of output in 1985. In general terms, and leaving aside the various theoretical and methodological difficulties connected with measuring the size and contribution of intensification to production growth, the phenomenon can first be contrasted with "extensive" growth. This is characterized by the predominant role of expansion of all production inputs—labour, fixed assets and material inputs in relation to output; "intensive" growth is characterized by the predominant role of factor productivity. Intensification of industrial growth is on this basis described as a process whereby total productivity gains provide an increasing contribution to output growth.

Indices of labour productivity and capital productivity taken separately already give a partial insight into the process of intensification (chart 3.3.2). However, their movements are not identical, and may even develop in opposite directions (table 3.3.2). Though there is no single method for measuring overall progress of the intensification process, and the results are sensitive to different assumptions as to the relative weighting assumed for each factor in the total, it is possible to devise some idea of trends, in the first instance, by calculating indices of total factor

TABLE 3.3.1

**Gross output and factor inputs in industry**
*(Average annual percentage change)*

| | *Gross output* | | *Employment* | | | |
|---|---|---|---|---|---|---|
| | *Plan* | *Actual* | *Plan* | *Actual* | *Fixed assets* | *Gross fixed capital formation* |
| *Bulgaria* | | | | | | |
| 1976–1980 | 9.2 | 6.0 | . . | 1.5 | 10.0 | 7.7 |
| 1981–1985 | 5.1 | | . . | | | |
| 1979 | 7.8 | 5.4 | 1.0[a] | 1.7 | 8.4 | −0.6 |
| 1980 | 6.3 | 4.0 | 1.7 | 2.3 | 9.2 | 10.2* |
| 1981 | 5.6 | 5.6 | . . | | | |
| 1982 | 4.5 | | . . | | | |
| *Czechoslovakia* | | | | | | |
| 1976–1980 | 5.7–6.0 | 4.5 | . . | 0.7 | 6.1 | 6.9 |
| 1981–1985 | 2.7–3.4 | | 0.2[a] | | | |
| 1979 | 4.5 | 3.7 | 0.7[a] | 0.6 | 5.9 | 6.6 |
| 1980 | 4.0 | 3.3 | 0.8 | 0.7 | 5.7 | 3.6 |
| 1981 | 2.7 | 2.0 | 0.5 | 0.4[a] | | |
| 1982 | 0.6* | | . . | | | |
| *German Democratic Republic*[b] | | | | | | |
| 1976–1980 | 6.0[b] | 4.9[b] | . . | 0.5 | 6.0 | 5.1 |
| 1981–1985 | 5.1 | | . . | | | |
| 1979 | 5.5 | 4.8 | 0.8[a] | 0.6 | 5.8 | 4.1 |
| 1980 | 4.7 | 4.7 | 0.2[a] | 0.2 | 5.9 | 3.6 |
| 1981 | 5.0 | 5.1 | . . | 0.5* | | |
| 1982 | 4.6 | | 0.6* | | | |
| *Hungary* | | | | | | |
| 1976–1980 | 6.0 | 3.4 | . . | −1.1 | 8.0 | 4.3 |
| 1981–1985 | 3.5–4.0 | | . . | | | |
| 1979 | 4.0 | 3.0 | | −1.2 | 9.5 | −2.0 |
| 1980 | 3.5–4.0 | −2.1 | −0.5[a] | −2.6 | 8.1 | −11.4 |
| 1981 | 3.3 | 2.3 | . . | −2.1 | | |
| 1982 | 2.0–2.5 | | . . | | | |
| *Poland* | | | | | | |
| 1976–1980 | 8.2–8.5 | 4.7 | . . | 0.4 | 9.3 | 5.8 |
| 1981–1985 | . . | | . . | | | |
| 1979 | 4.9 | 2.7 | −0.4[a] | 0.0 | 7.9 | −14.3 |
| 1980 | 3.0–4.2 | 0.0 | −0.2–1.3[a] | 0.2 | 5.8 | −14.0 |
| 1981 | 0.0 | −12.6[c] | | −0.3 | 4.0 | |
| 1982 | 0.6* | | . . | | | |
| *Romania* | | | | | | |
| 1976–1980 | 10.2–11.2 | 9.5 | 1.6–2.1 | 3.5 | 10.4 | 7.8 |
| 1981–1985 | 7.6 | | 0.6[a] | | | |
| 1979 | 11.3 | 8.0 | 1.0[a] | 3.9 | 9.6 | 7.4 |
| 1980 | 11.4 | 6.1 | 2.5[a] | 2.3 | 10.0 | 2.5 |
| 1981 | 8.1 | 2.6[d] | 1.0 | | | |
| 1982 | 5.6[e] | | | | | |
| *Soviet Union* | | | [a] | | | |
| 1976–1980 | 6.3 | 4.5 | 0.8 | 1.6 | 7.6 | 5.3 |
| 1981–1985 | 4.7 | . . | 0.5 | . . | | |
| 1979 | 5.7 | 3.4 | 1.0 | 1.3 | 7.6 | 1.2 |
| 1980 | 4.5 | 3.6 | 0.7 | 1.1 | 7.1 | 2.4 |
| 1981 | 4.1 | 3.4 | 0.5 | 0.7[a] | | |
| 1982 | 4.7 | . . | 0.6 | | | |
| *Byelorussian SSR* | | | [a] | [a] | | |
| 1976–1980 | 7.4 | 7.2 | 1.9 | 2.4 | 9.8 | 5.5 |
| 1981–1985 | 5.1 | . . | 1.1 | . . | . . | . . |
| 1979 | 6.2 | 6.9 | 1.1 | 2.6 | 9.9 | −3.5 |
| 1980 | 5.9 | 6.0 | 1.6 | 1.8 | 9.9* | −7.5 |
| 1981 | 4.1 | 4.5 | 1.1 | 1.5 | 9.6* | . . |
| 1982 | 4.3 | . . | 1.3 | . . | . . | . . |

TABLE 3.3.1 (*continued*)

| | *Gross output* | | *Employment* | | | |
|---|---|---|---|---|---|---|
| | *Plan* | *Actual* | *Plan* | *Actual* | *Fixed assets* | *Gross fixed capital formation* |
| *Ukrainian SSR* | | | [a] | [a] | | |
| 1976–1980 | 5.9 | 3.9 | 0.7 | 1.6 | 6.8 | 4.2 |
| 1981–1985 | 4.2 | . . | 1.0 | . . | . . | . . |
| 1979 | 5.2 | 3.0 | 1.5 | 1.4 | 7.1 | −2.6 |
| 1980 | 4.0 | 2.2 | 1.3 | 1.1 | 6.7 | 1.6 |
| 1981 | 3.5 | 3.0 | . . | 0.7 | 6.7 | . . |
| 1982 | 4.0 | . . | 1.6 | . . | . . | . . |

*Sources:* National statistics, *CMEA Statistical Yearbooks*, plans and plan-fulfilment reports.

*Note:* Average annual gross fixed capital formation during 1976–1980 over the average of the preceding five-year period.

[a] Derived from output and productivity data.

[b] Commodity production.

[c] Sales at current prices.

[d] Marketable production.

[e] Net output.

productivity. The sensitivity of results to different assumptions as to the relative weighting of each factor in the total should, however, be borne in mind.

*Labour productivity*—measured in terms of country-weighted gross industrial output per employee—rose in the region at an average annual rate of 3.4 per cent during 1976–1980 compared with 5.9 per cent in 1971–1975. The deceleration was common to all countries of the region, and in most countries rates varied between annual averages of 3.5 to 4.5 per cent. The only exceptions were Romania (5.8 per cent annually) and the Soviet Union (2.8 per cent) (table 3.3.2).

The explanation of declining trends in productivity growth is very complex and not subject to purely statistical treatment. Many reasons influencing this tendency were reported. Structural shifts in industrial production, reflecting changes in domestic and external demand, have not contributed to productivity growth in the second half of the 1970s as much as during 1971–1975. In many industries there were limitations on the side of material inputs, particularly energy and imported raw materials. In several countries, the distribution of the labour force did not fully correspond to the level and rates of expansion of industrial fixed assets. In many cases fixed assets were not fully utilized and technology and organizational methods lagged behind up-to-date requirements. The management system and industrial policies during 1976–1980 were, moreover, oriented more towards reaching balanced growth than to promoting substantial increases in labour productivity.

As shown by the figures in the following text table, the share of industrial output growth accounted for by the growth in labour productivity increased during the 1970s in Bulgaria, Hungary, Poland and Romania. These were the countries where the slowdown in the growth in industrial employment was most marked between the first and second halves of the decade (table 3.3.1). The biggest change occurred in Hungary, where industrial employment decreased in absolute terms. The proportion of output growth accounted for by rising labour productivity in that country hence amounted to more than 100 per cent.

**Share of labour productivity in the growth of industrial output**
*(Percentage of gross industrial output)*

| | *1971–1975* | *1976 1980* | *Plan 1981–1985* |
|---|---|---|---|
| Bulgaria | 69 | 73 | . . |
| Czechoslovakia | 89 | 82 | 93–94 |
| German Democratic Republic | 95 | 90 | . . |
| Hungary | 95 | 132 | . . |
| Poland | 70 | 91 | . . |
| Romania | 48 | 61 | 92 |
| Soviet Union | 78 | 62 | 89 |
| Area average (unweighted) | 78 | 84 | . . |

*Sources:* As for table 3.3.1.

*Note:* Due to differences in coverage and methodology applied, figures in this table may differ from officially reported data.

Despite the lack of data covering all countries for 1981–1985, further increases in the share of labour productivity in output growth can be expected, not only because of the continuing deceleration in the rates of growth of industrial employment.

*Capital productivity*—measured in terms of gross industrial output per unit of industrial fixed assets—showed a notable downward trend during 1976–1980 as compared with 1971–1975 in all countries. Substantial changes occured in Czechoslovakia, Bulgaria, Hungary and Poland, where average annual capital productivity growth in 1976–1980 fell as against 1971–1975 by 2.5–5.0 percentage points. Indeed in all east European countries and the Soviet Union, industrial fixed assets in 1976–1980 grew faster than industrial output and capital productivity declined (table 3.3.2).

There are a number of interrelated causes for the decline in capital productivity, among them more

TABLE 3.3.2

**Productivity indicators in industry**
(*Average annual percentage change*)

| | Labour productivity[a] | Capital intensity[b] | Capital productivity[c] | Total productivity[d] | |
|---|---|---|---|---|---|
| | | | | A | B |
| *Bulgaria* | | | | | |
| 1971–1975 | 6.2 | 6.9 | −0.6 | 4.2 | 3.5 |
| 1976–1980 | 4.4 | 8.4 | −3.6 | 2.0 | 1.2 |
| 1979 | 3.7 | 6.6 | −2.7 | 1.8 | 1.1 |
| 1980 | 1.7 | 6.7 | −4.7 | −0.2 | −0.9 |
| 1981 | | | | | |
| *Czechoslovakia* | | | | | |
| 1971–1975 | 5.9 | 4.9 | 1.1 | 4.5 | 4.0 |
| 1976–1980 | 3.7 | 5.3 | −1.5 | 2.1 | 1.6 |
| 1979 | 3.0 | 5.3 | −2.1 | 1.5 | 1.0 |
| 1980 | 2.6 | 5.0 | −2.4 | 1.1 | 0.6 |
| 1981 | 1.6 | | | | |
| *German Democratic Republic* | | | | | |
| 1971–1975 | 6.2 | 6.1 | 0.1 | 4.4 | 3.8 |
| 1976–1980 | 4.4 | 5.4 | −1.0 | 2.8 | 2.2 |
| 1979 | 4.1 | 5.1 | −0.9 | 2.6 | 2.1 |
| 1980 | 4.4 | 5.7 | −1.1 | 2.8 | 2.2 |
| 1981 | 4.6* | | | | |
| *Hungary* | | | | | |
| 1971–1975 | 6.1 | 7.8 | −1.5 | 3.8 | 3.1 |
| 1976–1980 | 4.5 | 9.2 | −4.3 | 1.8 | 1.0 |
| 1979 | 4.6 | 11.3 | −6.0 | 1.4 | 0.4 |
| 1980 | 0.5 | 10.9 | −9.4 | −2.5 | −3.5 |
| 1981 | 4.5 | | | | |
| *Poland* | | | | | |
| 1971–1975 | 7.3 | 6.2 | 1.0 | 5.4 | 4.8 |
| 1976–1980 | 4.3 | 8.9 | −4.2 | 1.7 | 0.9 |
| 1979 | 2.6 | 7.8 | −4.9 | 0.3 | −0.4 |
| 1980 | −0.2 | 5.6 | −5.5 | −1.7 | −2.3 |
| 1981 | | 4.3 | | | |
| *Romania* | | | | | |
| 1971–1975 | 6.2 | 6.5 | −0.3 | 4.3 | 3.6 |
| 1976–1980 | 5.8 | 6.7 | −0.8 | 3.8 | 3.2 |
| 1979 | 3.9 | 5.5 | −1.5 | 2.9 | 1.7 |
| 1980 | 3.7 | 7.5 | −3.5 | 1.5 | 0.8 |
| 1981 | | | | | |
| *Soviet Union* | | | | | |
| 1971–1975 | 5.8 | 7.0 | −1.1 | 3.7 | 3.0 |
| 1976–1980 | 2.8 | 5.9 | −2.9 | 1.1 | 0.5 |
| 1979 | 2.2 | 6.1 | −3.9 | 0.4 | −0.2 |
| 1980 | 2.5 | 6.0 | −3.3 | 0.8 | 0.2 |
| 1981 | 2.7 | | | | |

*Sources:* As for table 3.3.1.

[a] Gross output per employee.

[b] Fixed assets per employee.

[c] Gross output–fixed assets ratio.

[d] The figures for total productivity were obtained in two variants by combining the growth rates of labour productivity and capital productivity with weights: 0.7 in the case of the former and 0.3 in the case of the latter in variant A and with weights 0.6 and 0.4 in variant B. The relationship approximates that between the wage fund, imputed capital charge and an allowance for depreciation of fixed assets.

limited availability of material inputs, and slower labour productivity growth which has occurred for a variety of reasons (see section 3.1 (i)). In addition, the increasing share of the capital intensive energy sector in investment allocation, the need to substitute scarce labour by fixed assets, and environmental protection expenditures have contributed to this trend. The majority of countries in the region have reported a substantial degree of under-utilization of capital—another reason for the decline in capital

TABLE 3.3.3

**Gross output by major branches**
(*Annual percentage change*)

<table>
<tr><th></th><th>Electricity and heating</th><th>Fuel</th><th>Ferrous metallurgy</th><th>Non-ferrous metallurgy</th><th>Engineering and metal working</th><th>Chemicals and rubber</th><th>Construction materials</th><th>Glass and china</th><th>Wood and wood processing</th><th>Pulp and paper</th><th>Textiles</th><th>Clothing</th><th>Leather and fur</th><th>Food processing</th></tr>
<tr><td colspan="15"><i>Bulgaria</i></td></tr>
<tr><td>1976–1980</td><td>7.5</td><td>5.6</td><td>6.9</td><td>. .</td><td>9.4</td><td>8.9</td><td>8.4</td><td>3.2</td><td>2.4</td><td>5.3</td><td>4.9</td><td>1.4</td><td>4.5</td><td>4.1</td></tr>
<tr><td>Plan 1981–1985</td><td colspan="2">5.4</td><td>5.4</td><td>. .</td><td>8.5</td><td>7.7</td><td>. .</td><td colspan="6">4.6</td><td>3.7</td></tr>
<tr><td>1979</td><td>5.2</td><td>11.1</td><td>1.9</td><td>. .</td><td>5.5</td><td>9.1</td><td>7.0</td><td>6.9</td><td>2.3</td><td>2.4</td><td>5.4</td><td>1.9</td><td>0.3</td><td>5.6</td></tr>
<tr><td>1980</td><td>10.8</td><td>5.6</td><td>2.0</td><td>. .</td><td>6.4</td><td>11.1</td><td>4.4</td><td>4.5</td><td>4.3</td><td>5.5</td><td>3.6</td><td>5.9</td><td>6.8</td><td>−2.2</td></tr>
<tr><td>Plan 1981</td><td>7.2</td><td>. .</td><td colspan="2">10.1</td><td>8.1</td><td>11.0</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td colspan="3">2.4</td><td>3.5</td></tr>
<tr><td>1981</td><td>6.8</td><td></td><td>6.4</td><td></td><td>7.9*</td><td>11.1</td><td></td><td colspan="6">5.4</td><td>3.2</td></tr>
<tr><td colspan="15"><i>Czechoslovakia</i></td></tr>
<tr><td>1976–1980</td><td>4.8</td><td>2.6</td><td>2.8</td><td>3.1</td><td>6.7</td><td>5.8</td><td>4.4</td><td>5.2</td><td>5.3</td><td>4.3</td><td>3.5</td><td>3.4</td><td>3.3</td><td>2.7</td></tr>
<tr><td>Plan 1981–1985</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>5.1–5.9</td><td>1.4</td><td>. .</td><td></td><td>4.1–4.6</td><td colspan="2">2.3–2.8</td><td></td><td></td><td>. .</td></tr>
<tr><td>1979</td><td>−1.1</td><td>2.5</td><td>1.6</td><td>3.1</td><td>6.5</td><td>3.3</td><td>2.5</td><td>4.7</td><td>4.6</td><td>2.8</td><td>4.1</td><td>3.9</td><td>3.0</td><td>1.8</td></tr>
<tr><td>1980</td><td>7.5</td><td>0.1</td><td>1.6</td><td>1.0</td><td>4.6</td><td>4.8</td><td>4.0</td><td>3.0</td><td>4.6</td><td>3.2</td><td>3.7</td><td>2.9</td><td>3.0</td><td>1.8</td></tr>
<tr><td>Plan 1981</td><td>2.0</td><td>0.4</td><td>1.0</td><td>. .</td><td>5.5</td><td>1.0</td><td>3.0</td><td>2.7</td><td>4.4</td><td>2.9</td><td>2.9</td><td>3.5</td><td>1.6</td><td>1.8</td></tr>
<tr><td>1981</td><td></td><td></td><td colspan="2">0.9</td><td>3.9</td><td>0.1</td><td>1.5</td><td>1.9</td><td>1.8</td><td></td><td>2.9</td><td>3.3</td><td>1.6</td><td>1.5</td></tr>
<tr><td colspan="15"><i>German Democratic Republic</i></td></tr>
<tr><td>1976–1980</td><td>6.2</td><td>3.5</td><td>4.1</td><td>. .</td><td>6.7</td><td>5.1</td><td>2.5</td><td>5.6</td><td>4.6</td><td>4.7</td><td>3.9</td><td>3.2</td><td>4.7</td><td>2.8</td></tr>
<tr><td>Plan 1981–1985</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td></tr>
<tr><td>1979</td><td>6.4</td><td>2.9</td><td>2.5</td><td>. .</td><td>7.2</td><td>4.0</td><td>−0.6</td><td>4.7</td><td>3.1</td><td>3.4</td><td>2.7</td><td>4.4</td><td>4.6</td><td>2.8</td></tr>
<tr><td>1980</td><td>4.9</td><td>4.3</td><td>4.3</td><td>. .</td><td>6.1</td><td>3.8</td><td>–</td><td>5.1</td><td>1.8</td><td>5.2</td><td>4.0</td><td>4.3</td><td>5.0</td><td>2.8</td></tr>
<tr><td>Plan 1981</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td></tr>
<tr><td>1981</td><td></td><td></td><td colspan="2"></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="15"><i>Hungary</i></td></tr>
<tr><td>1976–1980</td><td>6.0</td><td>0.6</td><td colspan="2">1.6</td><td>3.3</td><td>6.5</td><td>4.3</td><td>2.1</td><td>3.3</td><td>4.2</td><td>2.0</td><td>2.5</td><td>1.8</td><td>3.4</td></tr>
<tr><td>Plan 1981–1985</td><td>. .</td><td>. .</td><td colspan="2">. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td></tr>
<tr><td>1979</td><td>1.3</td><td>0.9</td><td colspan="2">1.9</td><td>3.7</td><td>6.1</td><td>3.9</td><td>0.4</td><td>3.2</td><td>2.6</td><td>−0.6</td><td>1.4</td><td>−4.5</td><td>2.6</td></tr>
<tr><td>1980</td><td>3.3</td><td>−5.2</td><td colspan="2">−4.1</td><td>−5.7</td><td>−2.1</td><td>1.5</td><td>0.0</td><td>−2.0</td><td>0.8</td><td>3.2</td><td>8.4</td><td>−11.1</td><td>2.5</td></tr>
<tr><td>Plan 1981</td><td>. .</td><td>. .</td><td colspan="2">1.7</td><td>7.9</td><td>4.0</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td></tr>
<tr><td>1981</td><td></td><td></td><td colspan="2"></td><td>5.0</td><td>2.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="15"><i>Poland</i></td></tr>
<tr><td>1976–1980</td><td>5.4</td><td>2.5</td><td>3.2</td><td>3.6</td><td>7.0</td><td>4.3</td><td>1.2</td><td>9.9</td><td>4.8</td><td>1.7</td><td>3.0</td><td>3.7</td><td>4.2</td><td>2.4</td></tr>
<tr><td>Plan 1981–1985</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td><td>. .</td></tr>
<tr><td>1979</td><td>2.1</td><td>2.2</td><td>−0.4</td><td>0.1</td><td>5.7</td><td>2.3</td><td>−4.6</td><td>8.5</td><td>−3.9</td><td>−7.4</td><td>−1.1</td><td>−1.5</td><td>3.6</td><td>2.0</td></tr>
</table>

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1980 | 5.4 | −3.3 | 0.3 | −0.1 | 0.3 | 0.4 | −0.9 | 4.9 | 2.4 | 4.0 | −1.0 | 3.6 | 3.2 | −2.8 |
| Plan 1981 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 1981 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Romania* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976–1980 | 4.6 | 3.9 | 8.9 | 5.8 | 12.6 | 9.6 | 12.8 | 9.5 | 6.3 | 7.2 | 10.7 | 8.6 | 9.0 | 6.0 |
|  | 6.0 |  | 7.7 |  |  |  |  |  |  |  |  |  |  |  |
| Plan 1981–1985 |  |  |  |  | 8.8 | 10.2 | 5.8[a] | 7.5 |  |  |  |  |  | 7.7 |
| 1979 | 1.7 | 0.8 | 8.6 | 3.3 | 11.5 | 1.4 | 12.9 | 7.5 | 4.9 | 3.9 | 8.6 | 8.6 | 8.4 | 7.3 |
| 1980 | 1.6 | 0.7 | 0.6 | 6.5 | 9.7 | 6.8 | 4.6 | 9.8 | 5.4 | 6.0 | 9.2 | 8.6 | 8.5 | 1.5 |
| Plan 1981 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 1981 | 0.2 |  | 4.3 | 0.8 | 2.3 | 4.0 | 1.6[a] | 5.8 |  |  |  |  |  | −1.0 |
| *Soviet Union* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976–1980 | 5.1 | 3.0 | 1.9 | .. | 8.2 | 5.7 | 1.9 | 6.5 | 2.5 | 2.3 | 2.7 | 5.1 | 3.7 | 1.4 |
| Plan 1981–1985 | .. | .. | .. | .. | 7.0 | 5.7 | .. | .. | .. | .. | 3.5 |  |  | 4.2 |
| 1979 | 3.4 | 1.9 | 0.0 | .. | 7.7 | 2.3 | 0.0 | 4.8 | 0.0 | −4.4 | 1.8 | 4.3 | 2.6 | 1.9 |
| 1980 | 5.8 | 1.7 | 0.0 | .. | 5.7 | 5.6 | 0.9 | 5.4 | 2.7 | 2.7 | 1.9 | 6.7 | 3.4 | 0.0 |
| Plan 1981 | 3.5 | .. | .. | .. | 6.1 | 5.0 | .. | .. | .. | .. | 4.3 |  |  | 5.1 |
| 1981 | 2.0 | 1.0 | 0.5 |  | 6.0 | 5.0 | 2.0 | 3.0 |  |  |  | 3.0 |  | 2.0 |

*Sources:* As for table 3.3.1.

[a] Including wood processing, pulp and paper.

productivity, although this also provides an important reserve for the future expansion of industrial output.

Following the five-year plan strategy of intensification of development, several measures have been taken to reverse these trends. Substantially lower rates of growth of industrial investments in 1981–1985 as compared with the preceding period will, in the first place, force enterprises to use existing capacities more efficiently. A number of countries are also promoting the faster write-off of obsolete equipment. Innovations in incentive systems to encourage enterprises towards fuller utilization of capacity will also work to the same end.

*Total productivity indices* combine changes in labour and capital productivity in order to provide a combined synthetic indicator of total factor performance. The main problem, as noted, concerns the weighting of each of these two partial productivity indicators. Taking into account relevant indicators of NMP allocation in the countries under review, labour and capital productivity are weighted as shown.[298]

**Total productivity changes**

*(Average annual percentage change)*

|  | *1971–1975* | *1976–1980* |
|---|---|---|
| Bulgaria | 4.2 | 2.0 |
| Czechoslovakia | 4.5 | 2.1 |
| German Democratic Republic | 4.4 | 2.8 |
| Hungary | 3.8 | 1.8 |
| Poland | 5.4 | 1.7 |
| Romania | 4.3 | 3.8 |
| Soviet Union | 3.7 | 1.1 |
| Area average (unweighted) | 4.3 | 2.2 |

*Note:* Labour and capital productivity growth rate were combined with weights of 0.7 and 0.3 respectively. The weights approximate relationships between the wage fund, and an imputed capital charge (including an allowance for depreciation of fixed assets).

The movements between the first and second halves of the 1970s indicate a clear declining trend of total productivity in all countries under review. According to the separate productivity indicators mentioned, this trend stems mainly from the very steep declines in capital productivity noted above.

**Total productivity and industrial growth**

*(Percentage shares in total output growth)*

|  | *1971–1975* | *1976–1980* |
|---|---|---|
| Bulgaria | 47 | 33 |
| Czechoslovakia | 68 | 47 |
| German Democratic Republic | 68 | 57 |
| Hungary | 59 | 53 |
| Poland | 52 | 36 |
| Romania | 33 | 40 |
| Soviet Union | 50 | 24 |

*Sources:* As for table 3.3.1

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[298] However, the technique still leaves out of account the material intensity of production, discussed separately below.

The proportion of output growth accounted for by the growth of total productivity thus diminished in the 1976–1980 period in comparison with 1971–1975 in all countries but Romania, as can be seen from the preceding text table.

If a contribution of 50 per cent by total productivity, as distinct from changes in the level of inputs, to industrial output growth is taken as the border line between the predominantly "extensive" and predominantly "intensive" character of industrial expansion, some east European countries which crossed this borderline in 1971–1975, shifted back from a predominantly intensive to a predominantly extensive growth pattern in 1976–1980. This is the case for Czechoslovakia and Poland, and the same might be said for the Soviet Union, and also for Bulgaria, which in 1971–1975 were at the border between the two types of development. The growth of industrial output in the German Democratic Republic and Hungary also became less intensive, although it still remains above the demarcation point. The contrary tendency is recorded only for Romania but at levels below the demarcation point.

The strategy of the five-year plans for 1981–1985 emphasizes the need for changes in these trends, and calls for action to reorient industrial development on an intensive path. In all countries of the region improvement in the use of existing production factors is seen as a highest priority objective.[299]

The *material intensity* of industrial production, in most countries of eastern Europe and in the Soviet Union judged as excessive, has also been attracting increasing attention from planners, and is an increasingly important element of the economic strategy orientation towards higher efficiency. The east European countries are to a great extent dependent on imported energy and raw materials, and the impact of price increases on the balance of payments are of considerable importance. Reducing energy and material inputs per unit of industrial production is thus seen as an essential step if balance of payments problems are to be resolved. The successful accomplishment of these aims could also have important internal repercussions, since it would release investment and labour resources to other sectors of the economy.

There are no adequate global indicators to measure changes in material intensity. Some estimates of trends in this regard are given by comparing the aggregate growth of gross and net output, since the difference between the two provides a rough indication of the efficiency of material inputs over time. (In the following text table an increasing ratio of net to gross industrial output growth rates indicates higher efficiency of material inputs, and vice versa.)

**Gross (A) and net (B) industrial output**
*(Average annual percentage change)*

| | *A* | *B* | *B/A* |
|---|---|---|---|
| Bulgaria | | | |
| 1971–1975 | 9.0 | 9.3 | 1.03 |
| 1976–1980 | 6.0 | 6.8 | 1.13 |
| Czechoslovakia[a] | | | |
| 1971–1975 | 5.9 | 6.1 | 1.03 |
| 1976–1980 | 3.5 | 3.5 | 1.00 |
| German Democratic Republic[a] | | | |
| 1971–1975 | 5.9 | 5.8 | 0.98 |
| 1976–1980 | 4.9 | 5.0 | 1.02 |
| Hungary | | | |
| 1971–1975 | 6.4 | 7.5 | 1.17 |
| 1976–1980 | 3.4 | 3.8 | 1.12 |
| Poland | | | |
| 1971–1975 | 10.4 | 10.8 | 1.04 |
| 1976–1980 | 4.7 | 2.6 | 0.55 |
| Romania | | | |
| 1971–1975 | 12.9 | 14.4 | 1.12 |
| 1975–1980 | 9.5 | 8.9 | 0.94 |
| Soviet Union | | | |
| 1971–1975 | 7.4 | 7.8 | 1.05 |
| 1975–1980 | 4.5 | 4.9 | 1.09 |

*Sources:* As for table 3.3.1.
[a] Based on national accounts statistics.

The ratio of net to gross industrial output growth in the last quinquennium has become more favourable compared with the preceding five-year period in Bulgaria, the German Democratic Republic and the Soviet Union. A marginal deterioration has taken place in Czechoslovakia and Hungary though in the case of Hungary, the growth rate of net output outstripped that of gross output in both five-year periods. A considerable fall in the ratio has occurred in Romania, and the largest which was very sharp indeed, took place in Poland.

The five-year plans for 1981–1985 call for very substantial *economies in energy, raw materials and other material inputs.* In the *German Democratic Republic* savings in the consumption of energy are expected to amount to some 70 million tons of fuel (in terms of brown coal equivalent) during 1981–1985. Cuts in consumption are targeted to produce savings of 2.2 million tons of rolled steel, 50,000 tons of aluminium, 15,000 tons of copper and 1.9 million tons of cement. Utilization of secondary raw materials is planned at the level of 30 million tons. Reduction of fuel and raw materials consumption is the major objective of the target programme for rationalizing fuel and energy consumption in *Czechoslovakia.* The programme envisages savings of roughly 12 million tons of fuel (expressed in conventional units) by 1985 and 27 million tons by 1990. The five-year plan for 1981–1985 also envisages energy savings averaging 2 per cent annually, and for metals, an annual average of 4.5–5.0 per cent annually. In *Romania* economies in inputs should be reflected in the higher growth rates of net compared with gross industrial output—average annual rates of growth of 8.8 against 7.6 per cent respectively. The *Soviet five-year plan* provides for the saving of 200 million tons of fuel (coal equivalent), 8.5 million tons of rolled metals and 50 million m$^3$ of wood by 1985 over and above present norms of consumption.

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[299] For example the Soviet Law on the five-year plan calls special attention to measures for ensuring growth in the productivity of labour, intensification and increased efficiency through accelerated scientific and technological progress, bigger savings of materials, improved management. *Ekonomicheskaya Gazeta*, No. 48, November 1981.

TABLE 3.3.4

**Structure of industrial production by major branches**
*(Percentage share)*

| | *Total* | *Electricity and heating* | *Fuel* | *Metallurgy* | *Engineering* | *Chemicals* | *Construction materials* | *Light industry* | *Food processing* |
|---|---|---|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | | | | |
| 1970 | 100.0 | 2.5 | 4.6 | 3.1[a] | 20.2 | 7.5 | 3.7 | 15.9 | 25.4 |
| 1975 | 100.0 | 2.2 | 3.8 | 3.5[a] | 24.8 | 7.6 | 3.9 | 13.1 | 23.5 |
| 1980 | 100.0 | 2.4 | 3.7 | 3.4[a] | 29.4 | 8.9 | 4.2 | 11.9 | 20.4 |
| *Czechoslovakia* | | | | | | | | | |
| 1970 | 100.0 | 3.4 | 10.2 | 14.5 | 24.3 | 8.8 | 3.7 | 15.3 | 17.0 |
| 1975 | 100.0 | 3.3 | 7.9 | 13.7 | 26.5 | 10.0 | 3.8 | 15.0 | 15.6 |
| 1980 | 100.0 | 3.3 | 7.1 | 10.9 | 30.8 | 10.4 | 3.6 | 14.7 | 14.0 |
| *German Democratic Republic* | | | | | | | | | |
| 1970 | 100.0 | 5.5 | | 7.2 | 34.4 | 13.3 | 2.4 | 11.3 | 18.9 |
| 1975 | 100.0 | 5.1 | | 7.8 | 35.3 | 15.0 | 2.0 | 11.3 | 16.5 |
| 1980 | 100.0 | 8.3 | | 6.7 | 35.9 | 13.8 | 1.8 | 10.1 | 17.2 |
| *Hungary* | | | | | | | | | |
| 1970 | 100.0 | 2.9 | 5.2 | 10.9 | 25.1 | 11.9 | 3.3 | 18.0 | 20.7 |
| 1975 | 100.0 | 3.1 | 4.2 | 10.0 | 27.0 | 14.5 | 3.1 | 17.4 | 19.1 |
| 1980 | 100.0 | 3.5 | 3.6 | 9.1 | 26.7 | 17.0 | 3.2 | 16.3 | 18.9 |
| *Poland* | | | | | | | | | |
| 1970 | 100.0 | 2.5 | 7.8 | 11.3 | 25.6 | 8.9 | 3.3 | 13.6 | 17.9 |
| 1975 | 100.0 | 2.3 | 6.2 | 10.4 | 31.1 | 9.5 | 3.0 | 12.7 | 16.6 |
| 1980 | 100.0 | 2.3 | 5.8 | 9.8 | 34.7 | 9.4 | 2.5 | 11.9 | 15.3 |
| *Romania* | | | | | | | | | |
| 1970 | 100.0 | 3.2 | 5.3 | 11.8 | 25.0 | 10.1 | 3.4 | 22.5 | 17.3 |
| 1975 | 100.0 | 2.0 | 5.7 | 11.3 | 30.5 | 8.6 | 3.0 | 21.5 | 15.2 |
| 1980 | 100.0 | 1.8 | 4.5 | 10.6 | 35.2 | 8.7 | 3.4 | 20.6 | 12.8 |
| *Soviet Union* | | | | | | | | | |
| 1970 | 100.0 | 3.0 | 6.4 | .. | 19.7 | 5.7 | 4.1 | 18.9 | 20.0 |
| 1975 | 100.0 | 3.0 | 6.0 | .. | 24.0 | 6.6 | 4.1 | 16.7 | 18.4 |
| 1980 | 100.0 | 3.0 | 5.6 | .. | 28.7 | 7.0 | 3.6 | 15.9 | 15.9 |

*Sources:* As for table 3.3.1

*Note:* Data are not strictly comparable because the national classifications of industrial branches are used.

[a] Excluding non-ferrous metallurgy.

### (iii) Industrial branch developments

Industrial branch developments in 1976–1980 were affected by various factors both on the supply as well as on the demand side—in particular, by limited possibilities for expanding energy and raw material imports and a decelerating growth in the supply of labour and investment resources. Output of the fuel, metallurgical, light and food processing industries expanded at slower rates than industry as a whole (table 3.3.3). The engineering and chemical industries continued to grow faster than other branches in all countries of the region but Hungary, where the share of engineering in the total industrial output slightly decreased in 1980 as against 1975 (table 3.3.4).

Shifts in the structure of output within branches appear to be taking place on a bigger scale than formerly, as new forms of international specialization and co-operation, actions to speed up technological progress, improve quality and to realign output structures to changes in demand have been implemented.

In *engineering*, changes in the structure of production have been particularly pronounced in recent years, and this will continue into 1981–1985. This reflects the fact that the engineering branch is the most important source of equipment required for the process of technical innovation in the rest of the economy. In the years to come, it will increasingly involve the development and production of electronics, robots and machine systems for automation and complex mechanization. The branch will also be affected by plans to increase the range of the intra-CMEA specialization agreements. The 35th session of the Council for Mutual Economic Co-operation, held in 1981 in Sofia, decided to expand co-operation in electronics—in particular in the production and application of micro-processors, communications and electronic radio equipment. Although no quantitative data are available so far, it would appear that increased emphasis will also be put on the development of energy equipment—notably, equipment for atomic power stations, automatic pumps for gas transportation, etc.

As noted earlier, in the majority of countries the *chemical industry* will also grow in the 1981–1985 period at faster growth rate than industry as a whole. This tendency is strongest in Romania, where annual growth rates of the chemical industry are planned at 10.2 per cent against 7.6 per cent for overall industrial growth. Relatively high growth rates of the chemical industry are also envisaged in the Soviet Union and Bulgaria (5.7 per cent and 7.7 per cent respectively). Nevertheless, in some east European countries the expansion of the chemical industry will be restricted by limitations on oil imports, though in Romania there is a growing trend to export oil products refined from imported supplies. A general tendency is to increase the manufacture of plastics and synthetic resins to serve as substitutes for metals. High growth rates are also set for chemical fibres—synthetic fibres in particular—and pharmaceuticals, cosmetics and other consumer products will be produced in greater quantities.

In *ferrous metallurgy*, structural changes have gone in the direction of raising the share of quality steel and widening the range of shapes and sizes of rolled products. This process is likely to continue. Policy measures to economise the use of metals, noted earlier, has resulted in stress on qualitative rather than quantitative growth of the branch.

Both the *light and the food industries* grew at substantially below average rates in 1976–1980, though the growth of light industry has been the faster of the two (table 3.3.3). Expansion is planned to approach the whole industry average more closely in 1981–1985. A long term target-oriented programme of international co-operation in this field has been agreed, which presupposes greater exchanges of consumer goods among the member countries. Qualitative improvements in output are also envisaged for 1981–1985; the commodity composition of the structure of the output will be broadened and quality improved in line with changes in foreign and domestic demand.

### (iv) Main characteristics of industrial development by country

Industrial output in *Bulgaria* grew at an average annual rate of 6.0 per cent during 1976–1980. The fastest growing industrial branches were the most technology-intensive ones—engineering, chemicals and electricity—with growth rates of 9.4, 8.9 and 7.5 per cent respectively (annual averages).

Industrial production in the plan period 1981–1985 is to increase by an average 5.1 per cent annually; the planned slowdown in industrial growth appears to arise from limitations in the supply of material input, particularly energy, deteriorating terms of trade for the country during recent years and labour scarcity. More efficient use of productive resources, as in other east European countries, is defined as the precondition for dynamic and stable industrial growth.

Priority development of *engineering*, at an 8.5 planned average annual percentage growth rate, will continue. The improvement of machinery supplies to the energy, metallurgical and chemical branches and to construction is stressed, together with new product specialities including industrial robots, microelectronics and high technology equipment for automation and communications. *The chemical industry*, with a 7.7 per cent planned annual growth, is also a high planned growth branch. It is envisaged that the domestic raw material basis be used more and the assortment of chemical products broadened. *Ferrous metallurgy* will expand production at an average annual growth of 5.4 per cent on the basis of new technologies. Stress will be placed on higher quality products. In the *energy sector* production is to grow by 5.4 per cent annually. The plan stresses the expanded utilization of domestic resources and economies in their use. Research is to be oriented towards new forms of energy—including geothermal and solar. *Light industry* is set to grow by 4.6 per cent annually. The range of consumer goods will be broadened, with special attention paid to consumer goods for children and young people. Finally, food industry output is scheduled to rise by 3.7 per cent. Planned structural changes take into account the objective to ensure higher living standards, provide a basis for technical progress and extend the international division of labour, in particular within the CMEA area.

The importance of industry in economic development continued to grow during the 1976–1980 period in *Czechoslovakia*. Industrial production rose at an average annual rate of 4.5 per cent. Engineering increased its share in industrial production from 24.3 per cent in 1970 to 30.8 per cent in 1980, and the chemical industry from 8.8 to 10.4 per cent. Rapid growth was also recorded in industries based on domestic raw materials, such as wood-working (an average annual increase of 5.3 per cent) and glass and ceramics (5.2 per cent). Output of nuclear power generation equipment rose exceptionally fast—by more than 16 times. Output of open cast lignite extraction equipment rose 2.5 times, production of transistors and microelectronics rose almost 2.5 times, petrochemicals increased 2.3 times and output of plastics almost doubled. *Engineering industry* increased its share in total industrial output with a 6.7 per cent average annual growth rate—the highest recorded by any industrial branch. Though rapid development of certain high technology sub-branches took place, it was not on a scale to satisfy the increased requirements of the domestic and external markets; targets for exports of engineering products were not fulfilled. The *chemical industry* averaged a 5.8 per cent annual growth rate. The basic raw material for expanded production was Soviet crude oil. *The metallurgical industry* improved the product range, notably by the production of steel pipes, special steels for the nuclear programme, and steel tyre cords. Special attention was devoted to expansion of the *fuel and energy base* (table 3.3.7). The commissioning of two 440 MW reactor units of Jaslovské Bohunice nuclear power station signified a qualitative change in the expansion of the power industry. In *light industry*, production expanded most rapidly in the sub-branches based on domestic raw materials.

Over the 1981–1985 period, industrial production is scheduled to rise by 14–18 per cent in 1985 as against 1980, indicating an average annual growth rate of 2.7–3.4 per cent. A key task for all branches will be to achieve the planned rates of advance while making savings of 2 per cent in fuel and energy.

*The engineering* branch will continue to occupy the key role. Production is to be raised by 5.1–5.9 annually. The plan is demanding from the viewpoint of the structure and quality of engineering production. In the electronics sub-branch, the expansion of manufacturing capacities is to be speeded up, by rapid introduction of R and D and co-operation with other CMEA countries, and the growth of output is expected to reach 6.3–7.3 per cent annually. The expansion of *chemical production* will be concentrated on special chemicals, in particular pure chemicals, organic dyes, polymer additives, drugs, biofactors and coating materials.

In the *fuel and energy* branches, coal extraction is to rise to 125–128 million tons by 1985 against 123.1 million tons in 1980. Coal and nuclear fuel are regarded as the principal sources of electricity and heat generation. It was reported that nuclear power plants will account for 55 per cent of the planned increase in electric energy capacities of 3960 MW; their planned output in 1985 is estimated at 15 billion kWh. In *metallurgy* the maintenance of the levels of metal production already achieved serves as the point of departure, savings of metals in industry as a whole being set to an average 4.5–5.0 per cent of current consumption annually. The share of high-grade steels is to increase. *Light industrial* production will be increased by 2.3–2.8 per cent annually up to 1985, with concentration on broadening the range and raising the quality and technical standard of its products. Production of the wood-processing industry should go up 4.1–4.6 per cent annually. Exports in branches processing domestic raw materials are to go up substantially and light industry is to contribute importantly to this.

Industrial production measured in terms of "commodity production" increased in the *German Democratic Republic* at an average annual rate of 4.9 per cent during 1976–1980. Annual percentage changes were relatively stable, since the variations of growth rates of gross industrial output moved between 3.7 per cent in 1978 and 5.9 per cent in 1976.

The main changes in the pattern of growth were due to the above average growth of engineering and metal working (6.7 per cent average annual growth), within which there was a rapid growth in electronics output. The reorientation also involved strengthening the energy and raw material base, and energy and fuel output grew by an average of 6.2 per cent annually, glass and ceramics by 5.6 per cent and chemicals by 5.1 per cent. Light industry was developed at a rate close to 4 per cent and the food industry by 2.8 per cent, in terms of average annual growth.

*The five-year plan for the 1981–1985 period* envisages a slightly higher rate of 5.1 per cent annually compared with performance in 1976–1980 (4.9 per cent). This target is to be met through higher efficiency in utilization of production resources, and by increases in labour productivity which will be very close to growth rates of industrial production. Development strategy in the field of industry presupposes greater achievements in scientific-technical progress, better use of raw materials and fuels, and improved product quality.

*Engineering* will increase at an annual rate of 7.1 per cent. Priority will be given to the production and application of microelectronics, industrial robots and electronics: the production of microelectronic elements will be doubled. For highly integrated solid state circuits, optimum and high performance electronic components output is to be increased by three to five times. In the 1981–1985 period 40–45,000 industrial robots are to be produced and used. Expansion of the use of microelectronics is considered as an important prerequisite not only for increasing the technical level of all branches of the economy, but also for increasing export capacity. The development of robotics and microelectronics will be coordinated with other CMEA countries, particularly with the Soviet Union. *Light industry* will grow at rates closer to that of industry as a whole—by 4.8–5.1 per cent annually. Production of local, mainly consumer oriented, industry will grow at a rate by 6.2–6.5 per cent annually, and will thus help to improve the supply of a wide range of consumer goods and services.

Gross industrial production in *Hungary* rose by an average of 3.4 per cent annually during 1976–1980. However a marked deceleration in the rate of industrial growth, including a fall in production of 2.1 per cent in 1980, was recorded during the period. Slower growth was essentially due to the efforts made to re-establish the balance of economic development designed in particular to cut back import growth and the trade deficit. Production levels were reached with a decreasing labour supply, labour productivity growing faster than output. Among the predominantly producer goods branches, the electricity and chemical industries expanded at above average annual rates (6.0 per cent for the former and 6.5 per cent for the latter), though a decelerating trend during 1976–1980 became apparent in these branches too. Exceptionally among the countries of the region, engineering grew only moderately—by an average annual 3.3 per cent following a decline in absolute levels of nearly 6 per cent in 1980. The two major consumer goods branches, the light and food industries, expanded at rates very close to that for industrial production as a whole.

During the *five-year plan 1981–1985* industrial output is set to increase by an annual rate of 3.5–4.0 per cent—slightly higher than those achieved in the previous quinquennium. This performance is to be achieved through increased productivity of labour. The pattern of development will be subordinated to the objective of balanced economic development, in particular the foreign trade balance. The share of exported products in total industrial output should, as stated, increase significantly.

Contrary to the trends in 1976–1980, the *engineering industry* is expected to grow faster than industry as a whole. At the head of the priority list are the following items: spare parts and tools; electronic products; machines and production lines for the food-processing industry and for agriculture;

equipment for the production, distribution and consumption of electric power; road vehicles and spare parts for them; up-to-date machine tools and consumer durables. The *chemical industry* is planned to develop faster than industry as a whole. The production and processing of synthetic basic materials will continue to expand. The production of pharmaceuticals, plant-protectives and other intermediate goods should be enlarged, partly in order to bring about vigorous export growth.

In *ferrous metallurgy*, the output increases are to be accompanied by quality improvements. Preference is given to high-grade rolled steels and processed metallurgical products, in order to improve domestic supplies and widen the export choice. Within the prospective development of *non-ferrous metals*, the opening of new bauxite mines is to be timed in order to ensure supplies for a growing level of aluminium production; it is also the intention to export aluminium in the most highly processed form possible. The range of products of *light industry* is to be updated and better aligned with demand; wood processing should grow at a faster rate than average. The *food industry* is to be developed as agricultural production permits. It is hoped to increase the international competitiveness of products and improve their packaging and transport.

Industrial output in *Poland* grew at an average annual rate of 4.7 per cent during the period 1976–1980. A strong decelerating tendency set in around the middle of the period, culminating in zero-growth in 1980. The most dynamic sectors were glass and ceramics (a 9.9 per cent average annual growth), engineering (7.0 per cent), energy (5.4 per cent) and wood processing (4.8 per cent). The development of Polish industry in the period under review was very uneven. The big changes of trend which began in 1979 and 1980 were connected with the social and economic disturbances which aggravated shortages of key imported materials on which the industry had become highly dependent.

Since no five-year plan for the period 1981–1985 has been adopted, there is no firm basis for evaluation of further industrial development of the country. A preliminary draft of the social and economic plan for the year 1982 was published. This year is defined as one of gradual consolidation. Industry is expected to increase output gradually, the main target being to increase the extraction of coal, energy, processed food and industrial products for export. The Planning Commission gives three alternatives for industrial development. The basic variant envisages zero growth in industrial production. A more optimistic variant of a 5 per cent industrial growth, and a more pessimistic outcome of a 10.6 per cent fall, are also given as best and worst case possibilities.

Industrial production in *Romania* expanded at a very rapid annual average of 9.5 per cent during the period 1976–1980. The most dynamic industrial sectors were construction materials, 12.8 per cent; engineering, 12.6 per cent; textiles, 10.7 per cent, and chemicals, 9.6 per cent. Industrial development was nevertheless influenced by changed external conditions and by some internal difficulties, particularly in fulfilling the planned targets for increasing efficiency.[300] The industrial output growth rate therefore decreased substantially during the last four years of the quinquennium, falling from 12.5 per cent in 1977 to less than half this rate in 1980 (6.1 per cent).

During the 1981–1985 five-year plan industrial production is expected to increase at a 7.6 per cent average annual growth rate. This rapid industrial growth presupposes higher efficiency in the utilization of production resources, especially of energy, and raw and other materials. An all-round transition from extensive to intensive development is required by the plan.

The expansion of the *production of energy* is planned to be based on coal and other domestic resources with gradual relative reductions of oil and gas consumption. Coal production is to be increased from 35.2 million tons in 1980 to 85.6 million tons in 1985. Production of crude oil is expected to increase from 11.5 million tons in 1980 to 12.5 million tons in 1985—a 1.7 per cent average annual increase. That of natural gas should rise from 28.2 billion m$^3$ in 1980 to 31 billion m$^3$ in 1985. *The metallurgical industry* is expected to grow at an average annual rate of 7.7 per cent. Steel production is to be increased from 13.2 million tons in 1980 to 18.2 million tons in 1985, thus implying an average annual rate as high as 6.6 per cent. Special attention is to be devoted to manufacturing high quality metals. *Engineering*, with an 8.8 per cent planned average annual growth target is, together with the chemical industry (a 10.2 per cent planned average annual increase), one of the most dynamic branches. Romania plans to implement provisions for the more rapid development of electronics and micro-electronics, automation and electronic control processes. Electronic machinery should expand at 20 per cent annually, fine mechanics, optical, hydraulic and pneumatic equipment at an 18 per cent annual rate and machine tools for metal working at a 19 per cent annual rate.

*The chemical industry* is expected to develop rapidly the processing of oil and gas, manufacturing more sophisticated plastics and chemical fibres and low bulk products. The following increase in the production of some chemical products is planned:

| | *1980* | *1985* |
|---|---|---|
| Synthetic rubber (*thousand tons*) | 150 | 313 |
| Plastic and resins (*thousand tons*) | 579 | 11 180 |
| Tyres (*thousand*) | 5 003 | 9 610 |
| Medicines (*thousand tons*) | 206 | 452 |
| Chemical fertilizers (*thousand tons, 100 per cent active substance*) | 2 451 | 4 050 |

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[300] In a speech to the Second Congress of Working Peoples Councils in Industry, Transport, Finance and Commerce, N. Ceausescu said: "The plan provisions were not duly fulfilled in all branches and sectors. There were failings concerning the rational, efficient utilization of investment funds. Not enough attention was given to economic profitability, to reducing material expenditures, increasing labour productivity." Summary of World Broadcast, 26 June 1981, BBC.

Expansion of *light industry* is to be based on better utilization of domestic resources with the aim of raising the level of production in line with demand. The planned annual rate of growth of light industry[301] is 7.5 per cent. Furniture production should rise by an annual average 10.1 per cent. The development of the *food industry* (7.7 per cent planned annual increase) is expected to contribute to domestic consumption and also to exports.

Gross industrial output in the *Soviet Union* increased at an average annual rate of 4.5 per cent during the period 1976–1980. The most dynamic sector was engineering and metal working, with annual growth rates nearly twice as high as the average (8.2 per cent), followed by glass and ceramics (6.5 per cent), chemicals (5.7 per cent), energy (5.1 per cent), and textiles (5.1 per cent). Ferrous metallurgy, construction material and food processing, however grew at rates well below the average (1.4–1.9 per cent).

The *five-year plan for 1981–1985* envisages a slight increase in the rate of overall industrial growth to an annual rate of 4.7 per cent.

Priority rates of development are envisaged for the engineering and chemical industries (7 and 5.7 per cent respectively). A shift in the structure of output in favour of consumer goods is planned; their annual rate of growth is set at 4.8 per cent compared with 4.6 per cent for producer goods, in comparison with rates of 3.9 per cent and 4.7 per cent respectively during the preceding five year period. The light industry and food industries are expected to grow by 3.6 per cent and 4.3 per cent annually.

Plan targets for specific commodities, where available (table 3.3.5), indicate that within engineering, the output of farm machinery is to rise by 40 per cent in 1985 as against 1980, and machinery and equipment for the light and food industries, together with production of household appliances, will grow by over 30 per cent. The use of robots in the Soviet Union, will be promoted: in 1976–1980, some 7,000 robots and manipulators of various types were produced while during the period 1981–1985, 40–50,000 will be manufactured. Within the chemicals branch, synthetic resins and plastics will rise by 68 per cent between 1980 and 1985 (to reach 6.1 million tons in the latter year). The output of chemical fibre and threads is planned to increase by 36 per cent, and plant protection chemicals by 40 per cent. Within *light industry* a 40 per cent increase in the output of consumer durables is envisaged. Textiles output is planned to reach 12.7 billion square metres in 1985, an increase of 18.2 per cent, and clothing and footwear are to increase their output by 27 per cent and 11.7 per cent respectively. For the *food processing industry*, production will stress improvement in the quality of foodstuffs. A resolution has been adopted “on increasing the production of consumer goods, enhancing their quality and variety in 1981–1985”.[302]

### (v) Developments in 1981 and plans for 1982

Gross industrial production in *Bulgaria* accelerated markedly in 1981 compared with the previous year. The 5.6 per cent rate of growth in 1981 was 1.6 percentage points above the 1980 rate and 0.2 percentage points above that in 1979. Data on the performance of industrial ministries show that all ministries, except the ministry for metallurgy and mineral resources, overfulfilled the annual plan targets.

The fastest growing branch was the chemical industry (11.1 per cent), followed by engineering (7.9 per cent), electricity and heating (6.8 per cent), ferrous metallurgy (6.4 per cent), light industry (5.4 per cent) and food processing (3.2 per cent). Substantial progress was reported in the field of automation and the mechanisation of production processes and in increasing production efficiency—through reducing production costs and increasing profits.

The *plan for 1982* provides for a deceleration of industrial production growth, and the target rate of 4.5 per cent is 1.1 percentage points below the rate in 1981. No data were given for individual branches. Industrial policy continues to stress better utilization of production resources through technical and scientific progress and closer co-operation with the socialist countries.

Gross industrial output in *Czechoslovakia* continued to grow in 1981 but at a lower rate of growth (2.0 per cent) in comparison with preceding years (3.7 per cent in 1979 and 3.3 per cent in 1980). The main reasons for the decelerating trend were the limited supply of material inputs and a slowdown in labour productivity, which rose by 1.6 per cent. The share of industrial output growth accounted for by the growth in labour productivity was 79 per cent. Industrial output and labour productivity were both below the plan targets.

*Coal production* decreased slightly in 1981 (122.8 million tons in comparison with 123.1 million tons extracted in 1980). *Electricity* generation rose by 1.0 per cent and no big difficulties in total energy supplies were reported (table 3.3.6). The output of the *metallurgical industry* increased by 0.9 per cent —though the plan envisaged a decrease in output. *Engineering* output grew by 3.9 per cent. The fastest growth was recorded in electrical engineering. *Chemical industry* production increased by 0.1 per cent. The downward trend in chemical output was caused by reduced imports of oil and other raw material feedstocks.

The wood-processing, pulp and paper industry expanded at a rate of 1.8 per cent. The production of building materials increased by 1.5 per cent. In light industry a growth rate of 2.5 per cent was recorded, and the output of the food industry grew by 1.5 per cent.

*Plans for 1982* envisage a further slowdown in industrial growth; judging from incomplete data, a 0.6 percentage increase in gross industrial output is envisaged. This slowdown will have to be temporary if the average 2.7–3.4 annual growth of industrial

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[301] Glass and china, textiles, clothing, leather and fur.

[302] *ECOTASS*, No. 34/1981.

TABLE 3.3.5. **Output of some**

| | | | | | | | *Motors cars (thousands)* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Electricity (billions of kWh)* | *Coal (millions of tons)* | *Crude oil (millions of tons)* | *Natural gas (billions of $m^3$)* | *Steel (millions of tons)* | *Steel pipes (millions of tons)* | *Passenger* | *Trucks* | *Buses* |
| *Bulgaria* | | | | | | | | | |
| 1975 | 25.2 | 27.8 | – | 0.1 | 2.3 | 0.2 | 15.0 | – | 1 |
| 1980 | 34.8 | 30.2 | – | 0.2 | 2.6 | 0.2 | 15.4 | – | 2.1 |
| 1981 | 37.0 | | | | | | | | |
| Plan 1982 | | | | | | | | | |
| Plan 1985 | | | | | | | | | |
| *Czechoslovakia* | | | | | | | | | |
| 1975 | 59.3 | 114.4 | 0.1 | 0.9 | 14.3 | 1.4 | 175 | 33.4 | 2.3 |
| 1980 | 72.7 | 123.1 | 0.1 | 0.6 | 15.2 | 1.5 | 184 | 45.7 | 3.3 |
| 1981 | 73.5 | 122.8 | . . | . . | 15.3 | . . | 181 | 45.9 | . . |
| Plan 1982 | | 124.0 | | | . . | | | | |
| Plan 1985 | 80–83 | 126–128 | | | | | | | |
| *German Democratic Republic* | | | | | | | | | |
| 1975 | 84.5 | 247 | – | – | 6.5 | 0.7 | 159 | 35.8 | 2.5 |
| 1980 | 98.8 | 258 | – | – | 7.3 | 0.7 | 177 | 37.0 | 2.9 |
| 1981 | | 267 | | | | | | | |
| Plan 1982 | | | | | | | | | |
| Plan 1985 | | | | | | | | | |
| *Hungary* | | | | | | | | | |
| 1975 | 20.5 | 24.9 | 2.0 | 5.2 | 3.7 | 0.3 | – | 1.9 | 10.7 |
| 1980 | 23.9 | 25.7 | 2.0 | 6.1 | 3.8 | 0.3 | – | 0.2 | 12.4 |
| 1981 | 24.2 | 25.9 | 2.0 | 6.0 | 3.6 | | | | 11.1 |
| Plan 1982 | | | | | | | | | |
| Plan 1985 | 28.0 | | | | 4.3–4.5 | | | | |
| *Poland* | | | | | | | | | |
| 1975 | 97.2 | 211.9 | 0.5 | 5.8 | 15.0 | 1.1 | 164 | 63.8 | 13.8 |
| 1980 | 121.9 | 230 | 0.3 | 6.0 | 19.5 | 1.1 | 351 | 47.7 | 13.1 |
| 1981 | 115.0 | 193.0* | | | | | | | |
| Plan 1982 | | | | | | | | | |
| Plan 1985 | | | | | | | | | |
| *Romania* | | | | | | | | | |
| 1975 | 53.7 | 27.1 | 14.6 | 31.6 | 9.5 | 1.1 | 68 | 36 | 3.9 |
| 1980 | 67.5 | 35.2 | 11.5 | 33.3 | 13.2 | 1.5 | 88.2 | 31.7 | 4.1 |
| 1981 | 70.0 | 37.0 | 11.6 | | 13.0 | | | | |
| Plan 1982 | 74.1 | 44.0 | 12.5 | 33.0 | 14.2 | | | 120 | |
| Plan 1985 | 82.5 | 85.6 | 12.5 | 31.0 | 18.2 | | | 312 | |
| *Soviet Union* | | | | | | | | | |
| 1975 | 1 039 | 645 | 490.8 | 269.6 | 141.3 | 16.0 | 1 201 | 696 | 67 |
| 1980 | 1 295 | 653 | 603.2 | 405.6 | 147.9 | 18.2 | 1 327 | 787 | 85.2 |
| 1981 | 1 325 | 640[a] | 609.0 | 465.0 | 149.0 | 18.3 | 1 324 | 786.6 | 86.9 |
| Plan 1982 | | | 614.0 | | | | | | |
| Plan 1985 | 1 555 | 705[a] | 630 | 630 | | | | | |

[a] Based on the methodology of CMEA.

production planned for 1981–1985 is to be reached, but it has been judged necessary to enable the industry to adjust to the more limited supply of fuel and energy, which will stay at the 1980 level. Imports of oil will be substantially reduced, and an attempt will be made to reduce energy and fuel consumption by 3 per cent per unit of NMP. Production of pig iron, steel and rolled metal will decrease by 1.3 million tons. In the chemical industry a decrease in the quantity of processed oil will be substituted by increases in the use of fibres and other chemical products requiring less raw materials. The engineering industry will occupy the key position with a 3.0 percentage increase.

The emphasis of industrial policy in 1982 will be on increased efficiency, particularly in the field of material inputs. There will also be stricter currency regulations governing imports. Structural changes and innovations which do not depend on big capital investments will also be promoted, together with further growth of trade with other countries of

**major industrial products**

| Tractors (thousands) | Refrigerators (thousands) | Television sets (thousands) | Mineral fertilisers (thousands of tons nutrient content) | Plastic and resins (thousands of tons) | Chemical fibres (thousands of tons) | Cement (millions of tons) | Pulp (thousands of tons dry matter) | Paper and cardboard (thousands of tons) | Fabrics (millions of m²) | Meat (thousands of tons) | Sugar (thousands of tons) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.1 | 182 | 124 | 626 | 157 | 63 | 4.4 | 159 | 343.3 | 442 | 400 | 316 |
| 6.8 | 96 | 88 | 653 | 250 | 95 | 5.4 | 190 | 395.1 | 455 | 476 | 341 |
| | | | | | 101.3 | 5.4 | | | | | |
| | | | | | | | | | | | |
| 29.6 | 366 | 445 | 1 059 | 428 | 140 | 9.3 | 518 | 1 041 | 869 | 975 | 840 |
| 33.4 | 382 | 389 | 1 233 | 894 | 165 | 10.5 | 584 | 1 183 | 904 | 1 140 | 779 |
| . . | . . | . . | . . | 913 | . . | 10.6 | . . | . . | . . | . . | . . |
| | | | | | | | | | | | |
| – | 527 | 509 | 3 984 | 605 | 282 | 10.6 | 435 | 1 205 | 745 | 1 435 | 730 |
| – | 637 | 578 | 4 735 | 861 | 293 | 12.4 | 514 | 1 242 | 749 | 1 550 | 733 |
| | | | | | | | | | | | |
| 0.6 | 431 | 400 | 704 | 124 | 20 | 3.8 | 43.1 | 343 | 475 | 679 | 308 |
| 0.1 | 499 | 418 | 1 045 | 328 | 29 | 4.7 | 30.0 | 440.4 | 452 | 779 | 468 |
| | 504 | 424 | 1 112 | 311 | | 4.6 | | | | 781 | 490 |
| | | | | | | | | | | | |
| 57.6 | 715 | 971 | 2 581 | 431 | 220 | 18.5 | 539 | 1 258 | 1 543 | 2 328 | 1 708 |
| 57.5 | 694 | 900 | 2 238 | 576 | 256 | 18.4 | 526 | 1 277 | 1 496 | 1 480 | 1 067 |
| | | | | | 200 | 14.2 | | | | | 1 710 |
| | | | | | | | | | | | |
| 50 | 332 | 512 | 1 729 | 347 | 119 | 11.5 | 544 | 679 | 821 | 779 | 516 |
| 70.9 | 376 | 541 | 2 451 | 579 | 152 | 14.6 | 588 | 847 | 1 085 | 1 071 | 509 |
| 74.0 | | | 2 640 | | | 14.8 | | | | | |
| 85 | | | | | | 15.8 | | | 1 292 | | 844 |
| | | | | 654 | | 16.5 | | | 1 518 | | |
| | | | | | | | | | | | |
| 550 | 5 579 | 6 960 | 21 998 | 2 390 | 955 | 122 | 5 140 | 8 583 | 9 804 | 9 134 | 10 382 |
| 555 | 5 925 | 7 528 | 24 767 | 3 028 | 1 176 | 125 | 5 192 | 8 733 | 10 418 | 8 524 | 10 127 |
| . . | 5 900 | 8 200 | 26 000 | | 1 200 | 127 | . . | . . | . . | . . | 9 500 |
| | | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . |
| | | . . | 35 900 | | 1 600 | . . | . . | . . | . . | . . | . . |

eastern Europe and the Soviet Union, as well as with the non-socialist countries.

Industrial output measured in terms of "industrial commodity production" rose by 5.1 per cent in 1981 in the *German Democratic Republic* (in the sphere of industrial ministries by 5.9 per cent). This is the highest tempo reached in the last four years, when growth ranged between 3.7 and 4.7 per cent. More than 90 per cent of the increase was accounted for by increases in the level of labour productivity.

This good result reflects a number of factors: one of these is the changes in the system of planning and management—in particular, the setting up of the large-scale industrial combines, oriented towards rationalization and modernization policies. In addition, savings of fuel, energy and raw materials enabled the increases in industrial production to take place with virtually no growth of primary energy resources. Consumption of the main types of energy, raw materials and other materials per unit of output fell by 5 per cent in comparison with the previous year. The promotion of industrial waste and

TABLE 3.3.6

**Electricity production (A), consumption (B) and generating capacity (C)**

| | Volume in 1980 | *Annnual average percentage change* 1971–1975 | 1976–1980 | Plan 1981–1985 |
|---|---|---|---|---|
| *Bulgaria* | | | | |
| A | 34.8 | 5.3 | 6.7 | .. |
| B | 38.7 | 7.1 | 5.9 | .. |
| C | .. | .. | .. | .. |
| *Czechoslovakia* | | | | |
| A | 72.7 | 5.6 | 4.2 | 2.0–2.7 |
| B | 74.5 | 5.5 | 3.3 | |
| C | 16 645 | 4.8 | 4.1 | .. |
| | | | | .. |
| *German Democratic Republic* | | | | |
| A | 98.8 | 4.5 | 3.2 | 2.6 |
| B | 100.3 | 4.6 | 3.5 | .. |
| C | .. | 6.1 | 3.9 | 3.3–3.9 |
| *Hungary* | | | | |
| A | 23.9 | 7.2 | 3.1 | .. |
| B | 34.1 | 6.7 | 4.9 | 2.3 |
| C | .. | .. | .. | .. |
| *Poland* | | | | |
| A | 121.9 | 8.5 | 4.7 | .. |
| B | 121.7 | 8.4 | 4.7 | .. |
| C | 25 292 | 7.6 | 4.8 | .. |
| *Romania* | | | | |
| A | 67.5 | 8.9 | 4.7 | 4.1 |
| B | 63.8 | 9.9 | 6.3 | .. |
| C | 16 109 | 9.5 | 6.8 | .. |
| *Soviet Union* | | | | |
| A | 1 295 | 7.0 | 4.5 | 3.7 |
| B | 1 276 | 6.9 | 4.4 | .. |
| C | .. | .. | .. | .. |

*Sources:* *CMEA Statistical Yearbooks*, national statistics and plans.
*Note:* Electricity production and consumption in billions of kWh, generating capacity in MW.

secondary raw material recycling processes supplied 10 per cent of the demand for industrial raw materials. Total costs per 100 marks of realized commodity production were reduced by 1.5 per cent in comparison with 1980.

Targets for consumer goods output were overfulfilled (in the light industry by 1.2 per cent; for glass and ceramics by 1 per cent and in food processing and local industries by 0.9 per cent). The quality and range of consumer goods improved.

*Plans for 1982* envisage industrial growth at a rate of 4.6 per cent–0.5 percentage point below the rate attained in 1981. The marketed output of enterprises subordinated to the industrial ministries will rise by 5.1 per cent and labour productivity by 4.5 per cent.

Some notion of structural changes in industry can be obtained from the plan figures by industrial ministries, if compared with total industrial growth.

In accordance with economic strategy on improving efficiency, energy inputs are to be reduced by 4 per cent in relation to the previous year. The consumption of rolled steel per unit of output in industry will fall by 6.5 per cent.

**Planned growth of commodity output by industrial ministries in 1982**
(*Annual percentage change*)

| *Ministry* | |
|---|---|
| Industry total | 4.6 |
| Coal and energy | 3.7 |
| Ore mining, metallurgy and potash | 3.3 |
| Chemical industry | 6.0 |
| Electrotechnical engineering and electronics | 7.7 |
| Heavy engineering and complete installations | 5.7 |
| Machine tools and metal-working machinery | 8.7 |
| General and agricultural engineering and vehicles | 6.7 |
| Light industry | 3.7 |
| Glass and ceramics | 4.2 |
| Food processing and local industry | 4.6 |

*Source:* National plan.

An acceleration of the pace of industrial expansion was reached in 1981 in *Hungary*, although not at the planned level. Gross industrial production, which declined by 2.1 per cent in the previous year, rose by 2.3 per cent in 1981. The declining trend in industrial employment continued, Hungary being the only country in the region where industrial employment declined continuously since 1975. Employment in industry in 1981 decreased by a further 2.1 per cent and labour productivity rose at a rate exceeding that of the growth of output by 4.5 per cent.

Output in the engineering industry increased by 5.0 per cent, a sharp recovery from the 5.7 per cent decline in 1980. It was reported that marketing of machinery and the competitiveness of production was not dynamic enough. The chemical industry output increased by 2.0 per cent, mainly due to increases in the production of mineral fertilizers, plant protection chemicals and pharmaceuticals. The production of energy remained unchanged. The output of a number of branches declined.

Industrial deliveries for the domestic market increased by 4.2 per cent. Deliveries for investment rose by 1.6 per cent and for productive purposes by 1.5 per cent. Industrial exports grew only slowly, and in certain branches decreased. Industrial policy continued to stress the re-establishment of external and internal equilibrium and to increase the pace of reconstruction, restructuring and modernization of the sector.

*Plans for 1982* envisage a 2.0–2.5 per cent increase in industrial production, which is below the five-year plan target of a 3.5–4.0 per cent average annual increase. Taking into account the below-average growth of industrial output in 1981, the pace of industrial expansion will need to be speeded up in the remaining years of the five-year period if the plan target is to be reached. Industrial development is scheduled to be accompanied by an increase in exports based on the competitiveness of output in international markets. Production is to be increased in branches with export potential, or which provide satisfactory substitutes for imports, or which require less material inputs and energy per unit of output.

No data have been reported for the development of individual industrial branches. A faster development is expected in engineering. An electronics programme was launched on 1 January 1982. A comprehensive government programme on material management is to be completed this year and a central development programme for the pharmaceutical industry has already been launched.

Industrial production declined in *Poland* by 12.6 per cent in terms of sales in 1981. A sharp decline in output took place during 1981 due to the social disturbances leading to repeated strike action in almost all branches of industry. Electricity production declined by 5.7 per cent and estimated total coal output reached only 193 million tons as against 230 million tons in 1980. Employment in socialized industry decreased by 0.3 per cent.

The social and economic crisis occurred in a period when internal and external imbalances were of such proportions that the operation of the economy at normal capacity was impossible. This aggravated existing industrial development problems and had long-term repercussions.

Data on plans for future developments are not available. The state of martial law in force in Poland makes it necessary to plan for a shorter period than usual. A new draft plan was worked out only for the first quarter of 1982, and in some important sectors of the economy, such as coal extraction or market supplies, enterprises moved to a monthly planning schedule. As the situation stabilizes, longer term planning will be re-introduced.

Industrial marketable production rose by 2.6 per cent in *Romania* in 1981. This was the lowest rate of expansion in the country's industrial expansion record over the 1976–1981 period. The plan for 1981 has set a high 8.1 per cent output growth target. The gap between the pace of actual and planned performance was thus markedly enlarged. The development was uneven in individual industrial branches. Fastest growth was attained by light industry (5.8 per cent), ferrous metallurgy (4.3 per cent) and chemicals (4 per cent). A decrease in industrial marketable production of 1 per cent was recorded for the food industry.

Savings targets for material inputs were reached and the growth of net industrial output outstripped that of gross output by 1.4 percentage points (there was a 4.0 per cent increase of net industrial output in 1981). On the other hand, a number of difficulties was reported in ensuring the energy, raw and other material supplies for production.

*The plan for 1982* envisages a 5.6 per cent increase in net industrial output. Gross industrial marketable production is to be expanded by 4.7 per cent. Both figures indicate an acceleration of industrial growth in comparison with 1981. Nevertheless, they are below the planned growth rate of gross industrial output for the five years to 1985 (a 7.6 per cent average annual increase). The plan provisions are grounded on a more realistic estimation of the economic possibilities of the country. A marked improvement of economic efficiency is the decisive factor for a balanced economic development.

No data were reported on planned developments by industrial branch. The plan aims to reach a high degree of self-sufficiency in energy and raw materials and to improve the quality of industrial output.

Gross industrial production in the *Soviet Union* increased at a rate of 3.4 per cent in 1981—practically the same rate as in the two preceding years (3.4 per cent in 1979 and 3.6 per cent in 1980). The rate of growth of consumer goods production was higher than for production of producer goods, reflecting the increasing attention being paid in economic policy to satisfying consumer needs in this area.

**Growth of gross industrial production by type of goods**
*(Annual percentage change)*

| | *1976* | *1977* | *1978* | *1979* | *1980* | *1981* | *Plan 1982* |
|---|---|---|---|---|---|---|---|
| Producer goods | 5.5 | 5.8 | 5.1 | 3.4 | 3.6 | 3.3 | 4.8 |
| Consumer goods | 3.0 | 5.2 | 4.1 | 3.3 | 3.5 | 3.6 | 4.6 |

*Sources:* As for table 3.3.1.

TABLE 3.3.7

**Production (A), net imports (B) and apparent consumption (C) of main forms of energy**

| | *1970* | | | *1975* | | | *1980* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *A* | *B* | *C* | *A* | *B* | *C* | *A* | *B* | *C* |
| *Bulgaria* | | | | | | | | | |
| Coal (millions of tons) | 29.3 | 5.5 | 34.8 | 27.8 | 6.7 | 34.5 | 30.2 | 7.2 | 37.4 |
| Oil and oil products (thousands of tons) | – | 5 963 | 5 963 | – | 10 459 | 10 459 | – | . . | . . |
| Natural gas (thousands of m³) | 474 | . . | . . | 111 | . . | . . | 190 | . . | . . |
| Electricity (billions of kWh) | 19.5 | −0.1 | 19.4 | 25.2 | 3.7 | 28.9 | 34.8 | 3.9 | 38.7 |
| *Czechoslovakia* | | | | | | | | | |
| Coal | 109.5 | −1.1 | 108.4 | 114.4 | −1.9 | 112.5 | 123.1 | – | 123.1 |
| Oil and oil products | 203 | 10 010 | 10 213 | 142 | 16 435 | 16 577 | 93 | 18 258 | 18 351 |
| Natural gas | 1 204 | 1 271 | 2 475 | 929 | 3 783 | 4 712 | 643 | 8 283 | 8 926 |
| Electricity | 45.2 | 3.4 | 48.6 | 59.3 | 4.2 | 63.5 | 72.7 | 1.8 | 74.5 |
| *German Democratic Republic* | | | | | | | | | |
| Coal | 261 | 11.4 | 272.4 | 247 | 9.2 | 256.2 | 258 | 10 | 268 |
| Oil and oil products | – | 9 130 | 9 130 | – | 14 300 | 14 300 | – | 21 876[a] | 21 876[a] |
| Natural gas | – | 160 | 160 | – | 3 230 | 3 230 | – | 6 430 | 6 430 |
| Electricity | 67.7 | 0.4 | 68.1 | 84.5 | 0.7 | 85.2 | 98.8 | 1.5 | 100.3 |
| *Hungary* | | | | | | | | | |
| Coal | 27.9 | 4.5 | 32.3 | 24.9 | 3.9 | 28.8 | 25.7 | 3.6 | 29.3 |
| Oil and oil products | 1 937 | 4 587 | 6 524 | 2 006 | 8 810 | 10 816 | 2 031 | 9 275 | 11 306 |
| Natural gas | 3 469 | 200 | 3 669 | 5 182 | 806 | 5 988 | 6 127 | 4 045 | 10 172 |
| Electricity | 14.5 | 4.1 | 18.6 | 20.5 | 5.8 | 26.3 | 23.9 | 10.2 | 34.1 |
| *Poland* | | | | | | | | | |
| Coal | 172.8 | −27.7 | 145.1 | 211.9 | −37.4 | 174.5 | 230 | −29.9 | 200.1 |
| Oil and oil products | 424 | 8 100 | 8 524 | 553 | 14 800 | 15 353 | 329 | 19 100 | 19 429 |
| Natural gas | 4 975 | 1 002 | 5 977 | 5 776 | 2 510 | 8 286 | 5 958 | 5 312 | 11 270 |
| Electricity | 64.5 | 0.1 | 64.6 | 97.2 | −0.5 | 97.6 | 121.9 | −0.2 | 121.7 |
| *Romania* | | | | | | | | | |
| Coal | 20.5 | 0.7 | 21.2 | 27.1 | 2.4 | 29.5 | 35.2 | 3.9 | 39.1 |
| Oil and oil products | 13 377 | −3 079 | 10 298 | 14 590 | −1 093 | 13 497 | 11 511 | 6 787 | 18 298 |
| Natural gas | 23 990 | −200 | 23 790 | 31 570 | −194 | 31 376 | 33 337 | −201 | 33 136 |
| Electricity | 35.1 | −2.4 | 32.7 | 53.7 | −2.5 | 51.2 | 67.5 | −0.4 | 67.1 |
| *Soviet Union* | | | | | | | | | |
| Coal | 578 | . . | . . | 645 | . . | . . | 653 | . . | . . |
| Oil and oil products | 353 039 | . . | . . | 490 801 | . . | . . | 603 207 | . . | . . |
| Natural gas | 184 478 | . . | . . | 269 588 | . . | . . | 405 608 | . . | . . |
| Electricity | 741 | −5.3 | 735.7 | 1 039 | −11.3 | 1027.7 | 1 295 | −19.9 | 1 276 |

*Sources: CMEA Statistical Yearbooks* and national statistics. Due to differences in coverage and definitions, figures may differ from national statistics.

*Note:* Apparent consumption of main forms of energy equals production plus imports and minus exports. Data on production are taken from CMEA yearbooks, data on net imports from national statistics.

[a] Oil only.

The growth of industrial employment at 0.7 per cent[303] was slower than in preceding years (average annual increases in industrial employment in the period 1976–1980 having averaged 1.6 per cent). The Soviet Union is entering a stage of development of relatively small increases in employment, necessitating reliance on increasing labour productivity as the preponderant source of growth. The percentage share of industrial output growth by growth originating from rises in labour productivity reached 80 per cent in 1981.

The highest increases in industrial output were reported for the production of household goods for cultural and everyday needs (7 per cent), in engineering (6 per cent) and in the chemical industry (5 per cent).

Production targets were reported to have been overfulfilled in 17 industrial ministries, while in 13 ministries output targets were not reached. The planned output of gas, of many engineering and chemical products and of consumer durables was overfulfilled. Nevertheless, plans for the production of coal, ferrous metal rolled stock, mineral fertilizers, chemical fibres, commercial timber, paper and meat were not fulfilled.

In connection with the 2 per cent fall in coal extraction, three decisions were adopted by the Soviet government concerning the coal mining industry: the first provides for higher pay for workers, the second for boosting coal output in opencast mines, and the third for the reconstruction of mines and the installation of new equipment.

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[303] Derived from output and productivity data.

Noticeable results are reported in savings of energy, fuels, raw materials and other material inputs per unit of gross output. With regard to quality, some 15.5 per cent of goods produced were graded highest quality.

The *plan for 1982* envisages that industrial output will grow at the same rate as laid down for the five-year plan (4.7 per cent). This is 1.3 per cent points higher than was reached in 1981. No marked changes in the growth of industrial employment are expected and the share of labour productivity in the growth of industrial output should again be close to 90 per cent.

Electricity production is to rise by 2.6 per cent. Electrical energy output by nuclear power plants will grow at a rate of 24 per cent. Plan for 1982 provides for the commissioning of a 1,642 km oil pipe line between Pavlodar and Chimkent and a 621 km oil pipe line to link Grozny and Baku. Major projects will be completed in the coal industry.

According to the plan, industrial policy will be oriented towards raising the efficiency of production. This further step in the intensification process will involve faster labour productivity growth rates, the extensive application of the latest achievements of science and technology, savings and rational use of raw materials, fuel, energy and other material resources and improvements in the quality of output.

# 4. INVESTMENT

The following section charts the changing role of investment in the economic process of eastern Europe and the Soviet Union during the 1970s. The first part examines the main trends of investment growth during 1976–1980 in the region as a whole—both in relation to previous performance and to the five-year plans for the period. This, together with the country by country review contained in the second part, is followed by a brief survey of factors affecting the management of the investment sector—notably organizational changes, the performance of the construction sector and of the building materials industry, and the availability of investment goods. The fourth part describes the principal structural changes which took place in investment allocations by main sector of the economy and within industry. This provides background for an assessment of the effects of structural change on the overall performance of the investment sector. This is set within the broader context of capital productivity as a whole—notably with regard to the "intensification" of economic growth—and its relationship with labour productivity. Against this background, the final part presents the main investment targets of the 1981–1985 five-year plans, the strategy underlying them, and an evaluation of progress towards their objectives in the light of economic performance in 1981 and the annual plans for 1982.

### (i) Plans and trends in 1976–1980

Growth in the volume of investment maintained considerable buoyancy in the centrally planned economies during the first 2–3 years of the 1976–1980 five-year plan period. Performance for 1976–1980 as a whole varied within a rather narrow range of 4–5 per cent annually in all countries but Poland (where there was a decline of 0.4 per cent annually) and Romania (increases of 9.8 per cent annually).[304] But an abrupt change of trend occurred in the middle of the period, and rates of growth of investment moderated and even became negative in some countries of the region in the later years of the quinquennium. Nevertheless, the investment expenditure plans for the five years taken together were over-fulfilled in the German Democratic Republic, the Soviet Union and also in Hungary, and performance in the others was, with exceptions, not far short of objectives.

Throughout the region, a major feature of the 1976–1980 five-year plans was the increased emphasis placed on laying the foundations for improving the relationship between capital assets and output—whether by speeding up the investment process itself by cutting project lead times, concentrating work and cutting down on new starts by strict adherence to priority schedules and the like, or by improving capacity utilization rates within enterprises and hence overall capital productivity. This provided a rationale for the strategy (adopted by all countries but Czechoslovakia and Romania) of cutting back planned investment growth to rates lower than retained for net material product.

As noted above (section 3.1, General developments), NMP growth targets were themselves set at rather lower levels than in previous five-year periods. Plans for investment therefore reflected in part the expected higher cost, and slowdown in the growth, of overall resource availability. The year 1975 was already marked down by the planners as a turning point in development, for the domestic and external reasons discussed in previous sections. What was not fully taken into account was the degree to which these developments would intensify during the plan period, necessitating a further re-orientation of overall and investment policies after 1977–1978. Investment policies and growth patterns were closely linked with foreign trade developments and the availability of investment goods imports.

**Gross investment and NMP levels, 1976–1980**
(*Outcomes as percentage of five-year plan targets*)

| | *Investment* | | *NMP* | |
|---|---|---|---|---|
| | *1976–1980* | *1980* | *1976–1980* | *1980* |
| Bulgaria | 98.4 | 96.6 | 96.0 | 93.0 |
| Czechoslovakia | 96.4 | 91.1 | 97.2 | 94.2 |
| German Democratic Republic | 103.2 | 98.6 | 97.4 | 95.7 |
| Hungary | 106.7 | 102.3 | 95.9 | 89.3 |
| Poland | 98.2 | 85.0 | 86.2 | 70.5 |
| Romania | 92.1 | 82.3 | 93.0 | 83.6 |
| Soviet Union | 102.0 | 104.3 | 99.8 | 97.6 |

*Sources:* As for table 3.4.1.

*Note:* Unlike comparisons between plans and outcomes elsewhere in this chapter, the above table shows the difference between *levels* planned and achieved rather than *increments*. Planned averages for periods are based on individual year attributions—where not specified in the plans—by the secretariat, estimated on the assumption of constant average annual compound rates of growth within the limits set by the five-year plan targets. See also note to table 3.4.1.

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[304] Absolute levels for five-year periods are geometrical averages of actual annual values; in the case of the five-year plans, growth objectives are derived from stated outlays on the assumption of constant annual compound percentage changes from the last year of the previous period (except for the Soviet Union where annual attributions, given in the five-year plan, were treated in the same way as actual values for past five-year periods, percentage growth rates for plan 1976–1980 and for plan 1981–1985 being based on 1975 and 1980 respectively). Figures used in this part have been recalculated in constant prices (table 3.4.1). ICORs and investment ratios may therefore differ from those based on official published figures on page 137.

CHART 3.4.1

**Changes in levels of NMP, gross fixed capital formation, and investment ratio**

(*Indices, 1973–1977 = 100*)

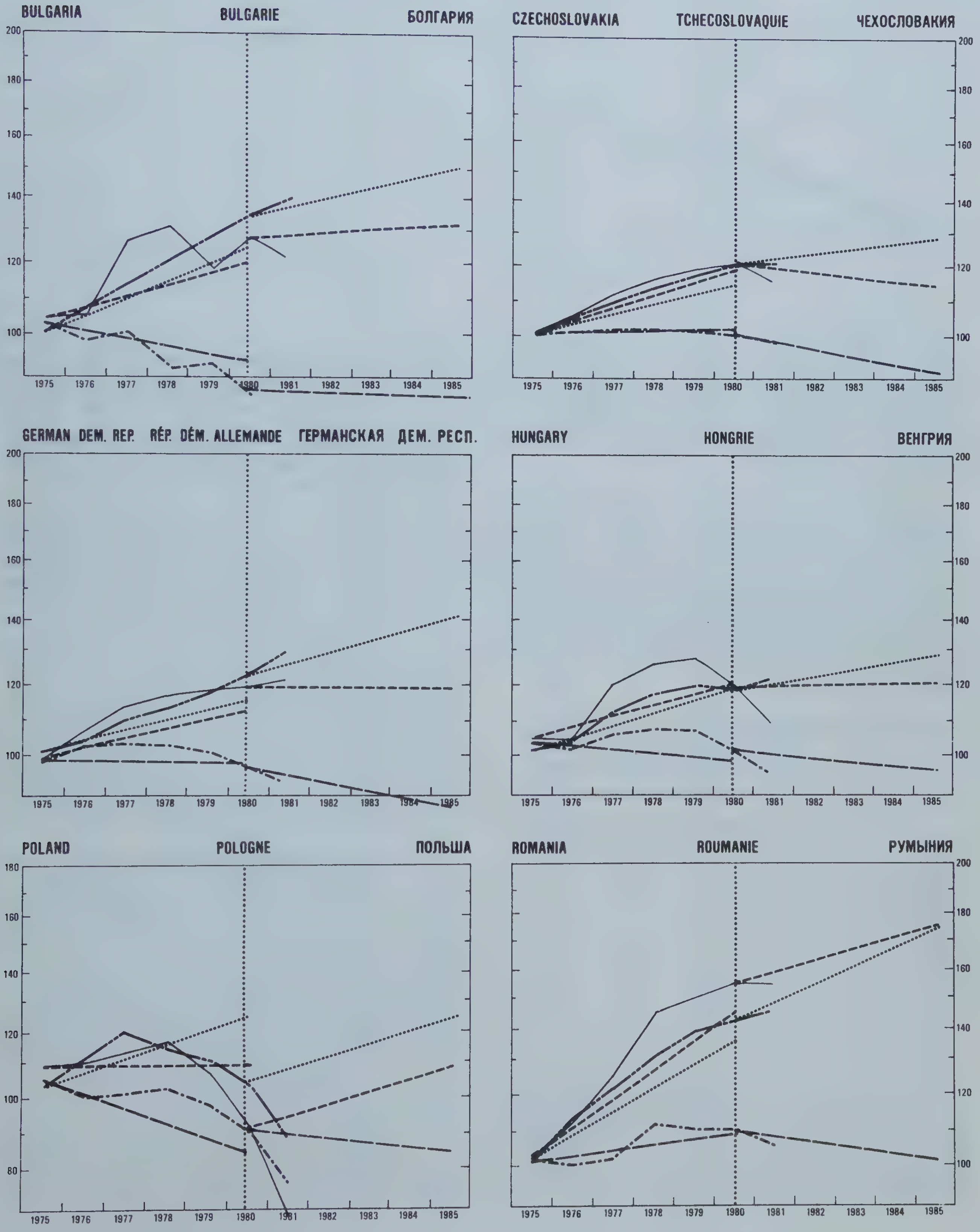
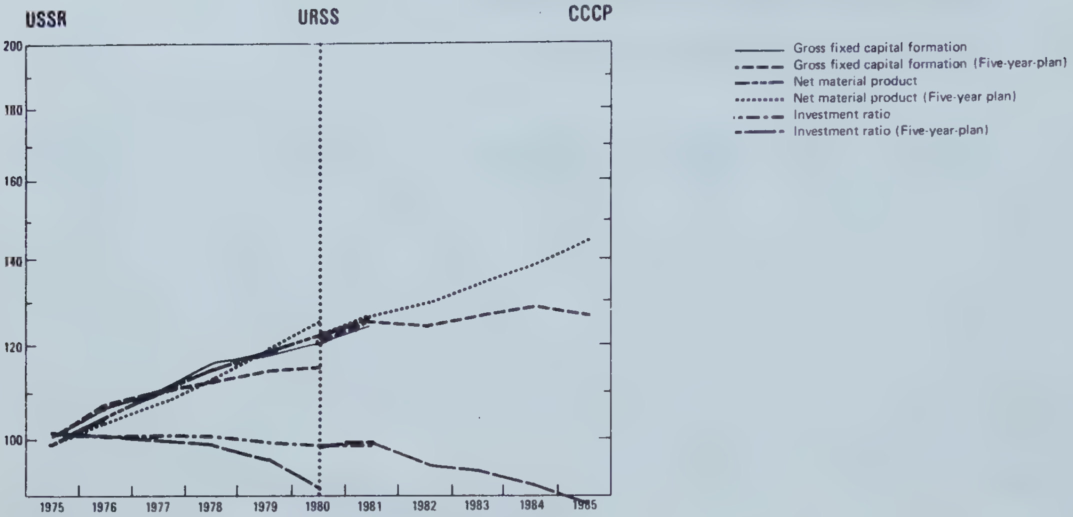


CHART 3.4.1 *(continued)*



As the following text table shows, the relatively close correspondence between investment plan targets and actual performance in the region was accompanied by marked shortfalls in NMP growth in a number of countries for the quinquennium as a whole, and notably in the final years of the plan period (see also chart 3.4.1).

The deceleration in virtually all countries of the average percentage rate of investment growth in 1976–1980 compared with the previous five-year period is shown in the following text table. Though the investment cost of growth in most countries was expected to increase, the more than proportionate shortfall in NMP growth illustrated above for all countries but Czechoslovakia and Romania resulted in considerable divergences from the expected pattern of developments.

**Investment growth in 1971–1975 (actual) and in 1976–1980 (actual and planned)**
*(Percentage change over final year of previous period)*

| | Actual | | Plan |
|---|---|---|---|
| | *1971–1975* | *1976–1980* | *1976–1980* |
| Bulgaria | 6.7 | 4.1 | 4.7 |
| Czechoslovakia | 7.8 | 4.1 | 5.4 |
| German Democratic Republic | 3.8 | 5.3 | 4.2 |
| Hungary | 5.6 | 4.4 | 2.1 |
| Poland | 17.1 | −0.4 | 0.2 |
| Romania | 10.7 | 9.8 | 12.9 |
| Soviet Union | 6.8 | 3.9 | 3.2 |

*Sources:* As for table 3.4.1.

In 1976–1980, *the percentage share of gross fixed capital formation in net material product* (the investment ratio) remained constant compared with 1971–1975 in Bulgaria. It rose by less than 1 percentage point in the German Democratic Republic and in the Soviet Union, and climbed in the other countries by 1.6–2.6 percentage points. The investment ratio rose above the five-year plan provisions by 0.6–4.4 percentage points in all countries except Czechoslovakia and Romania, where, exceptionally among the countries of the region, investment growth was planned to grow at higher rates than NMP; investment did, in fact, rise, but by slightly less than anticipated in both countries.

These changes in investment ratios in 1976–1980, taken in conjunction with the slowdown in NMP growth, resulted in large upward shifts in *incremental capital-output ratios* (ICORs) compared with the earlier years of the decade, and also in relation to planned outcomes. This ratio is higly sensitive to short-term changes in rates of production growth, which sometimes have little to do with the underlying efficiency of the investment sector. But the remarkably consistent upward movement in ICORs during the 1970s, which was already evident on a rather modest scale in 1974–1975, indicates a long-term trend which it has not yet proved possible to reverse. Moreover, the movement intensified during the 1976–1980 period, as shown by the annual figures for 1979 and 1980 in table 3.4.1.

The five-year plan targets for investment and NMP growth in 1976–1980, drawn up in the circumstances of the mid-1970s, clearly took into account changing conditions already apparent at that time. Faced already with the prospects of less buoyant world market conditions than those that had prevailed earlier in the decade, growing external indebtedness and, at home, less abundant labour, energy and raw material supplies, the plan implicitly acknowledged in almost all countries that the cost of growth in terms of investment during 1976–1980 would increase. This took into account, in addition, the higher initial expenditures expected to accompany the transition to an intensive economic development path. But the expected rise in the level of ICORs in 1976–1980 was relatively modest (indeed a fall was planned in Bulgaria) and the actual increases were

TABLE 3.4.1

### Gross fixed capital formation, investment ratios and incremental capital-output ratios

| Country and period | *Gross fixed capital formation* | | Ratio of gross fixed capital formation to net material product | Gross incremental capital-output ratio |
|---|---|---|---|---|
| | Billions of national currency units | Average annual percentage change | | |
| ***Bulgaria***[a] (based on constant 1980 prices) | | | | |
| 1971–1975 | 4.761 | 6.7 | 36.6 | 4.8 |
| Plan 1976–1980 | 6.798 | 4.7 | 35.8 | 4.6 |
| 1976–1980 | 6.686 | 4.1 | 36.6 | 5.9 |
| Plan 1981–1985 | 7.400 | 0.9 | 32.3 | 8.7 |
| 1979 | 6.690 | −2.3 | 34.5 | 5.2 |
| 1980 | 7.196 | 7.6 | 35.1 | 6.2 |
| Plan 1981 | 7.050 | −2.0 | 32.7 | 6.4 |
| 1981 | 6.836* | −5.0* | 31.9* | 7.1* |
| Plan 1982 | 7.215 | 5.6 | 32.5 | 9.0 |
| ***Czechoslovakia*** (based on constant 1977 prices) | | | | |
| 1971–1975 | 107.0 | 7.8 | 31.7 | 5.7 |
| Plan 1976–1980 | 148.4 | 5.4 | 34.0 | 6.9 |
| 1976–1980 | 143.0 | 4.1 | 33.7 | 8.6 |
| Plan 1981–1985 | 142.5 | −1.7 | 29.4 | 12.8 |
| 1979 | 148.1 | 1.8 | 33.6 | 11.1 |
| 1980 | 150.2 | 1.4 | 33.2 | 11.6 |
| Plan 1981 | 150.2 | 0.0 | 32.3 | 11.5 |
| 1981 | 144.8 | −3.6 | 31.9 | 158.7 |
| Plan 1982 | 140.0 | −3.3 | 30.7 | 60.8 |
| ***German Democratic Republic***[b] (based on constant 1975 prices) | | | | |
| 1971–1975 | 38.4 | 3.8 | 30.1 | 5.7 |
| Plan 1976–1980 | 48.3 | 4.2 | 29.3 | 5.9 |
| 1976–1980 | 49.8 | 5.3 | 31.0 | 7.6 |
| Plan 1981–1985 | 51.2 | −0.3 | 25.4 | 5.0 |
| 1979 | 51.2 | 0.7 | 30.7 | 8.0 |
| 1980 | 51.7 | 1.0 | 29.7 | 7.1 |
| Plan 1981 | 53.0 | 2.5 | 29.0 | 5.8 |
| 1981 | 52.6* | 1.8* | 28.8* | 5.8* |
| Plan 1982 | 52.7 | 0.2 | 27.4 | 5.1 |
| ***Hungary***[c] (based on constant 1976 prices) | | | | |
| 1971–1975 | 128.3 | 5.6 | 35.3 | 5.7 |
| Plan 1976–1980 | 162.3 | 2.1 | 33.6 | 6.0 |
| 1976–1980 | 173.3* | 4.4* | 37.4* | 9.0* |
| Plan 1981–1985 | 175.7* | 0.5* | 33.5* | 11.5* |
| 1979 | 185.6 | 1.1 | 38.3 | 19.6 |
| 1980 | 173.1 | −6.7 | 36.0 | −42.6[d] |
| Plan 1981 | 169.6 | 2.0 | 34.5 | 14.9 |
| 1981 | 157.5 | −9.0 | 32.2 | 17.8 |
| Plan 1982 | 153.6* | −−2.5* | 31.0* | 23.7* |
| ***Poland***[e] (based on constant 1977 prices) | | | | |
| 1971–1975 | 447.4 | 17.1 | 34.3 | 2.9 |
| Plan 1976–1980 | 628.9 | 0.2 | 31.5 | 4.4 |
| 1976–1980 | 617.6 | −0.4 | 35.9 | 18.7 |
| Plan 1981–1985 | . . | . . | . . | . . |
| 1979 | 612.2 | −7.9 | 35.8 | −9.7[d] |
| 1980 | 536.9 | −12.3 | 33.3 | −5.7[d] |
| Plan 1981 | 446.9 | −16.8 | 27.0 | 10.5 |
| 1981 | 402.7* | −25.0 | 28.7* | −2.2[d]* |
| Plan 1982 | 400.0 | −0.7 | 28.2 | 25.7 |
| ***Romania*** (based on constant 1977 prices) | | | | |
| 1971–1975 | 110.3 | 10.7 | 37.9 | 3.3 |
| Plan 1976–1980 | 200.9 | 12.9 | 40.9 | 3.7 |
| 1976–1980 | 185.0 | 9.8 | 40.5 | 4.8 |
| Plan 1981–1985 | 239.5 | 4.4 | 38.4 | 5.4 |
| 1979 | 204.4 | 4.1 | 41.5 | 7.1 |
| 1980 | 210.5 | 3.0 | 41.5 | 13.9 |
| Plan 1981 | 220.0 | 4.5 | 40.5 | 5.8 |
| 1981 | 208.5 | −0.9 | 40.3 | 19.2 |
| Plan 1982 | 226.3 | 8.5 | 41.4 | 7.5 |

TABLE 3.4.1 (*continued*)

| *Country and period* | *Gross fixed capital formation* | | *Ratio of gross fixed capital formation to net material product* | *Gross incremental capital-output ratio* |
|---|---|---|---|---|
| | *Billions of national currency units* | *Average annual percentage change* | | |
| *Soviet Union* (based on constant 1976 prices) | | | | |
| 1971–1975 | 98.2 | 6.8 | 29.1 | 5.7 |
| Plan 1976–1980 | 124.2 | 3.2 | 28.8 | 6.0 |
| 1976–1980 | 126.7 | 3.9 | 29.4 | 9.0* |
| Plan 1981–1985 | 140.0 | 1.6 | 27.5 | 11.5* |
| 1979 | 130.6 | 0.7 | 29.2 | 19.6 |
| 1980 | 133.5 | 0.7 | 28.9 | −42.6[d] |
| Plan 1981 | 140.2 | 2.2 | 29.3 | 14.9 |
| 1981 | 138.0 | 3.4 | 28.9 | 17.8 |
| Plan 1982 | 137.4 | −0.4 | 28.0 | 23.7* |

*Sources:* National statistics, *CMEA Statistical Yearbooks*; plans and plan fulfilment reports.

*Note:* Where ranges were given for annual or five-year plan targets, investment figures shown above (and NMP growth rates used to calculate ICORs) are mid-points of the range. Geometric averages were used to compute average levels and percentage changes over five-year periods. The latter are based on the final year of the preceding five-year period. Five-year plan objectives are based on secretariat estimates of the year-by-year evolution of investment and NMP objectives where these were not shown in the plans, on the assumption of constant annual percentage growth rates. See footnote 304 on page 236.

[a] Series for 1970–1980 are calculed from index numbers rebased on current 1980 prices. Average investment prices rose by some 7.2 per cent in that year–the first such increase for many years. Official figures, shown here for 1981, Plan 1981 and Plan 1981–1985, are at current prices, and the possibility of further changes should be borne in mind.

[b] Including investments in other socialist countries amounting, in million marks, to 1,374 annually during 1976–1980, 1,080 in 1979 and 1,325 in 1980.

[c] Socialist sector only. Figures for Plan 1981 and Plan 1981-1985 are based on published figures in current prices deflated by an estimated 4 per cent annual price rise.

[d] Minus sign indicates negative NMP growth.

[e] For Poland, a revised investment series, shown here, was published in 1981; it indicates a level of investment in 1979 of 216.8 (1970 = 100) compared with 234.2 in *Rocznik Statystyczny* 1980. For 1981, an investment figure of 398 billion zloty was reported (*Trybuna Ludu*, 29 January 1982), in addition to the 25 per cent negative growth rate retained in this table. For plan 1982, the ICOR was calculated on the basis of the "optimistic" variant of projected NMP growth (1.1 per cent) published in *Trybuna Ludu*, 28–29 November 1981.

very much bigger than anticipated. In no country of eastern Europe was the actual rise in the ratio between the first and second halves of the 1970s less than about one fifth, and only in the Soviet Union were outcomes close to the levels implied by the original NMP and investment targets. In several countries, the movement was very large indeed. The phenomenon clearly has its roots in developments both inside and outside the investment sector itself.

As the foregoing general appraisal already indicates, there were some initial differences in the approach to investment policies among the countries of the region. Some were not subject to the same constraints, or to the same degree of constraint, as others, and there were subsequent differences in the timing of their response to the increasingly restrictive internal and external economic climate. Developments can be best illustrated, in the first instance, by a country by country review of actual and planned developments during the 1976–1980 period, taking into account changes in trends during the decade as a whole.

### (ii) Review of 1976–1980 by country

In *Bulgaria*, investment growth during 1976–1980 was planned at an annual average of 4.7 per cent, for the first time well below the target rate of growth retained for NMP (7.7 per cent). The planned moderation in investment growth rates was thus considerable compared with the previous five-year period (6.7 per cent), but the actual slowdown, following a deceleration to 4.1 per cent annually, was even bigger. The plan figures implied a slight decrease in the investment ratio (from 36.6 to 35.8 per cent) on average for the period compared with 1971–1975, and a slight fall in the ICOR (from 4.8 to 4.6). In fact, the investment ratio held constant, the ICOR rising to 5.9 on average and to 6.2 in the year 1980.

As in previous years, investment growth varied considerably from year to year. This was due less to cyclical effects—apart from the big upsurges in the final years of both the last five-year plan periods—as, perhaps, to the effects of starts and completions of projects which were large in relation to total investment. Moreover, big year-to-year movements are common in all sectors and branches (± 20–30 per cent are frequent), and are often not related to changes in total investment.

Two important features of investment policy for 1976–1980 were to shorten gestation periods and, as a prerequisite for this, to restrict the number of new projects in favour of the modernization, re-equipment and extension of existing plants. It was expected that this would account, on average, for about 70 per cent of total investment expenditures during 1976–1980 as a whole. This target was under-fulfilled; at current prices, allocations for these purposes accounted for 44 per cent of total investment, and 59 per cent in the material sphere only. The same objective was reflected more generally in a planned rise, to 100 per cent, of the share of fixed assets brought into operation in total gross fixed capital formation. This ratio in fact rose to 90.1 per cent in 1976–1980 but fell to 88.3 per cent

TABLE 3.4.2
Fixed capital brought into operation

| Country and period | Billions of national currency units | | | | | Percentage of gross fixed capital formation | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Industry | Construction | Agriculture and forestry | Transport and communications | Total | Industry | Construction | Agriculture and forestry | Transport and communications |
| *Bulgaria*[a] | | | | | | | | | | |
| 1971–1975 | 3.695 | 1.435 | 0.143 | 0.618 | 0.436 | 85.0 | 80.8 | 85.6 | 89.8 | 86.0 |
| 1976–1980 | 5.576 | 2.161 | 0.178 | 0.820 | 0.730 | 90.1 | 83.9 | 92.2 | 99.0 | 95.3 |
| 1979 | 5.491 | 2.216 | 0.163 | 0.769 | 0.740 | 91.0 | 86.4 | 90.1 | 98.3 | 91.4 |
| 1980 | 6.353 | 2.865 | 0.162 | 0.819 | 0.683 | 88.3 | 95.1 | 91.5 | 91.5 | 85.5 |
| 1981 | 5.900 | .. | .. | .. | .. | 86.3 | .. | .. | .. | .. |
| *Czechoslovakia* | | | | | | | | | | |
| 1971–1975 | 105.70 | 39.37 | 4.180 | 12.44 | 12.94 | 94.6 | 95.8 | 94.6 | 96.7 | 86.6 |
| 1976–1980 | 134.89 | 50.97 | 6.65 | 16.71 | 17.82 | 94.2 | 93.9 | 90.6 | 101.5 | 92.0 |
| 1979 | 131.51 | 50.78 | 7.12 | 16.49 | 18.24 | 88.8 | 88.5 | 84.3 | 99.4 | 89.5 |
| 1980 | 146.26 | 56.29 | 8.94 | 16.57 | 18.87 | 97.4 | 94.7 | 86.7 | 103.2 | 100.2 |
| 1981 | 149.04 | .. | .. | .. | .. | 102.9 | .. | .. | .. | .. |
| *German Dem. Rep.* | | | | | | | | | | |
| 1971–1975 | 41.5 | 20.0 | 1.3 | 5.0 | 4.7 | 91.8 | 87.9 | 75.7 | 98.4 | 99.5 |
| 1976–1980 | 44.4 | 22.3 | 1.6 | 5.1 | 4.2 | 92.5 | 89.9 | 100.0 | 98.1 | 97.7 |
| 1979 | 46.7 | 23.7 | 1.5 | 5.0 | 4.0 | 93.2 | 88.8 | 115.4 | 98.0 | 88.9 |
| 1980 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Hungary*[a] | | | | | | | | | | |
| 1971–1975 | 107.5 | 41.3 | 3.2 | 19.7 | 14.3 | 91.0 | 93.9 | 100.0 | 103.1 | 89.4 |
| 1976–1980 | 162.4 | 61.6 | 3.9 | 18.9 | 23.0 | 87.8 | 84.2 | 68.4 | 73.0 | 93.1 |
| 1979 | 182.5 | 73.1 | 5.8 | 26.5 | 26.2 | 89.5 | 90.8 | 93.5 | 93.6 | 93.6 |
| 1980 | 177.7 | 65.5 | 4.8 | 24.4 | 28.7 | 93.7 | 93.2 | 92.3 | 94.2 | 106.3 |
| *Poland*[a] | | | | | | | | | | |
| 1971–1975 | 318.838 | 131.649 | 182.53 | 587.705 | 198.98 | 82.4 | 78.2 | 93.6 | 107.6 | 45.5 |
| 1976–1980 | 535.166 | 208.250 | 32.727 | 116.420 | 54.415 | 86.3 | 85.5 | 104.4 | 113.7 | 96.4 |
| 1979 | 568.659 | 204.445 | 39.056 | 128.088 | 57.109 | 92.9 | 94.2 | 134.9 | 116.3 | 105.4 |
| 1980 | 493.373 | 160.479 | 30.524 | 124.188 | 55.985 | 91.9 | 85.9 | 125.5 | 136.1 | 100.0 |
| *Romania* | | | | | | | | | | |
| 1971–1975 | 100.28 | 47.73 | 5.05 | 15.10 | 11.10 | 91.3 | 86.1 | 97.7 | 95.3 | 99.6 |
| 1976–1980 | 153.59 | 69.50 | 10.57 | 22.06 | 17.01 | 82.4 | 75.8 | 95.9 | 85.8 | 85.8 |
| 1979 | 155.31 | 68.60 | 11.95 | 20.71 | 16.17 | 76.0 | 65.8 | 93.7 | 77.2 | 79.3 |
| 1980 | 174.45 | 82.78 | 9.24 | 22.94 | 21.64 | 82.9 | 77.3 | 95.8 | 81.9 | 85.6 |
| *Soviet Union* | | | | | | | | | | |
| 1971–1975 | 92.16 | .. | .. | .. | .. | 93.5 | .. | .. | .. | .. |
| 1976–1980 | 117.60 | .. | .. | .. | .. | 92.7 | .. | .. | .. | .. |
| 1979 | 120.1 | .. | .. | .. | .. | 92.0 | .. | .. | .. | .. |
| 1980 | 130.2 | .. | .. | .. | .. | 97.5 | .. | .. | .. | .. |

*Sources:* As for table 3.4.1. [a] Current prices; for Hungary, refers to socialist sector only.

in 1980—even so, an improvement on the 85 per cent registered in the previous quinquennium (table 3.4.2). The figure was, however, considerably lower in industry—84 per cent compared with 81 per cent in 1971–1975, but rises of 99 and 95 per cent were registered for agriculture, and for transport and communications, respectively.

No detailed information on sectoral or branch shifts in investment allocations were given in the 1976–1980 five-year plan. The share allocated to the material sphere fell marginally between the first and second halves of the decade. General statements, and also the gross output targets planned by sector and industrial branch, suggested that investment priorities in the material sphere would be given in the first instance to industry, followed by agriculture, transport and trade. Within industry, above average growth was planned for engineering, followed by chemicals, metallurgy and energy. This strategy was broadly reflected in actual outcomes. Industry and agriculture both increased their share in total investment allocations to the material sphere (table 3.4.3). Industrial branch investment grew fastest for metallurgy and engineering, and allocations to the fuel and energy branches combined rose quickest of all (3.4 percentage points). A noticeable reversal of the trend however occurred with regard to investment in the chemical industry, its share falling abruptly by 3.5 percentage points between 1971–1975 and 1976–1980.

### TABLE 3.4.3

### Structural shifts in investment allocations within the material sphere (A) within industry (B) and between the material and non-material spheres (C)

(*Percentage points*)

| | *Bulgaria* | | | *Czechoslovakia* | | | *German Democratic Republic* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *1976–1980/ 1971–1975* | *1979/ 1976–1980* | *1980/ 1976–1980* | *1976–1980/ 1971–1975* | *1979/ 1976–1980* | *1980/ 1976–1980* | *1976–1980/ 1971–1975* | *1979/ 1976–1980* | *1980/ 1976–1980* |
| A. *Within the material sphere* | | | | | | | | | |
| Industry | +1.1 | +0.3 | +2.3 | +0.3 | +0.5 | +1.1 | +1.0 | +1.5 | +3.3 |
| Construction | −0.8 | −0.4 | −0.4 | +1.7 | +0.8 | +2.4 | +0.6 | −0.6 | −0.9 |
| Agriculture | −2.3 | −0.9 | −0.7 | −0.7 | −0.7 | −1.6 | −1.8 | −0.5 | −0.7 |
| Transport and communications | +1.2 | +1.0 | −0.9 | −0.3 | — | −0.9 | −0.1 | +0.2 | −0.7 |
| Trade[a] | +0.5 | −0.3 | −0.3 | −1.0 | −0.5 | −1.0 | +0.2 | −0.2 | −0.7 |
| Other | +0.4 | +0.3 | — | — | — | — | — | −0.3 | −0.4 |
| B. *Within industry* | | | | | | | | | |
| Energy | −0.1 | +0.4 | — | +2.1 | −0.1 | +0.3 | −2.5 | −1.1 | −0.2 |
| Fuel | +2.2 | +0.1 | +0.8 | +1.4 | +2.2 | +1.5 | | | |
| Metallurgy | −1.1 | +0.4 | +1.6 | +2.4 | +1.6 | −1.1 | +3.7 | −0.3 | +1.8 |
| Engineering | +3.4 | +1.1 | +3.4 | +3.7 | −0.3 | +0.3 | +0.5 | +0.9 | +2.1 |
| Chemicals | −3.5 | +0.2 | −3.9 | −3.6 | −2.0 | −1.7 | −1.3 | +2.2 | −0.3 |
| Construction materials | +1.5 | +0.6 | −0.1 | −1.9 | −0.4 | −0.4 | −0.5 | — | +0.1 |
| Wood, paper | −1.2 | −0.8 | −0.2 | +0.4 | +0.3 | +2.3 | . . | . . | . . |
| Textiles | −1.0 | −1.0 | −1.2 | −0.8 | — | −0.3 | −0.8 | — | −0.3 |
| Other light[b] | −1.8 | — | −0.2 | −0.2 | −0.4 | −0.2 | −0.4 | −0.8 | −1.2 |
| Food | +0.3 | −1.9 | −1.1 | −0.2 | −0.4 | −0.2 | +0.5 | −0.9 | −1.8 |
| Other | +2.1 | +0.8 | +0.8 | −3.3 | −0.7 | −0.6 | +0.8 | — | −0.3 |
| C. *Between the material and non-material spheres* | | | | | | | | | |
| Material sphere | −0.3 | −0.3 | −0.6 | +2.8 | −0.2 | −0.6 | −1.2 | −0.3 | −0.9 |

| | *Hungary* | | | *Poland* | | | *Romania* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *1976–1980/ 1971–1975* | *1979/ 1976–1980* | *1980/ 1976–1980* | *1976–1980/ 1971–1975* | *1979/ 1976–1980* | *1980/ 1976–1980* | *1976–1980/ 1971–1975* | *1979/ 1976–1980* | *1980/ 1976–1980* |
| A. *Within the material sphere* | | | | | | | | | |
| Industry | +3.1 | −0.2 | −0.2 | −1.4 | −2.3 | −2.9 | +0.1 | +1.9 | +1.4 |
| Construction | +0.5 | — | −0.3 | +0.8 | −0.1 | −0.3 | +2.2 | −0.4 | −1.7 |
| Agriculture | −3.1 | — | −0.7 | +1.7 | +2.2 | +1.1 | −1.6 | −0.9 | −0.7 |
| Transport and communications | −0.7 | +0.6 | +1.4 | −1.6 | −0.4 | +1.7 | +0.6 | −0.9 | +1.5 |
| Trade[a] | +0.1 | −0.5 | +0.9 | −0.6 | −0.1 | — | −1.3 | −0.5 | −0.6 |
| Other | +0.2 | +0.1 | +0.7 | +1.2 | +0.7 | +0.4 | . . | . . | . . |
| B. *Within industry* | | | | | | | | | |
| Energy | +2.3 | +1.2 | +4.1 | +1.3 | +0.9 | +5.2 | −2.1 | −0.8 | −0.6 |
| Fuel | +1.7 | +0.2 | +2.9 | −0.4 | +1.2 | +5.9 | −0.2 | −1.2 | +0.3 |
| Metallurgy | +1.2 | +2.5 | +3.2 | +1.7 | −2.5 | −4.2 | +1.6 | — | — |
| Engineering | +1.9 | −0.4 | −1.1 | +2.4 | +0.4 | −1.4 | +5.8 | +1.1 | +3.5 |
| Chemicals | −3.8 | −2.8 | −3.9 | +1.4 | +1.3 | −1.5 | −0.5 | +2.3 | −1.4 |
| Construction materials | −2.3 | — | −1.2 | −2.5 | −1.0 | −1.2 | −1.1 | +0.2 | −0.1 |
| Wood, paper | . . | . . | . . | +0.8 | −0.3 | −1.2 | −1.6 | −0.1 | −0.7 |
| Textiles | −1.6 | −0.7 | −1.1 | −2.5 | −0.4 | −0.6 | −0.3 | −0.3 | +0.4 |
| Other light[b] | −2.6 | −0.6 | −1.1 | −0.5 | +0.2 | −0.1 | −0.2 | +0.1 | −0.2 |
| Food | +3.3 | +0.6 | −1.8 | −2.4 | +0.3 | −0.8 | −1.1 | −0.6 | −0.8 |
| Other | −0.1 | — | +0.1 | +0.4 | −0.1 | −0.1 | −0.4 | −0.5 | −0.5 |
| C. *Between the material and non-material spheres* | | | | | | | | | |
| Material sphere | +1.6 | −0.3 | −0.7 | −2.3 | −2.2 | −2.8 | +1.0 | +0.4 | +0.8 |

TABLE 3.4.3 (*continued*)

| | Soviet Union | | |
|---|---|---|---|
| | *1976–1980/ 1971–1975* | *1979/ 1976–1980* | *1980/ 1976–1980* |
| A. *Within the material sphere* | | | |
| Industry | −0.8 | −0.5 | +0.2 |
| Construction | +0.2 | +0.1 | — |
| Agriculture | −0.5 | −0.2 | −0.2 |
| Transport and communications | +1.2 | +0.5 | +0.2 |
| Trade[a] | — | +0.2 | +0.2 |
| Other | . . | . . | . . |
| B. *Within industry* | | | |
| Energy | −1.3 | −0.1 | −0.1 |
| Fuel | +2.3 | +0.8 | +2.4 |
| Metallurgy | −0.7 | +0.1 | −0.3 |
| Engineering | +2.2 | −0.2 | +0.1 |
| Chemicals | +0.8 | −0.2 | −1.5 |
| Construction materials | −0.7 | +0.1 | −0.1 |
| Wood, paper | −0.5 | −0.2 | −0.4 |
| Textiles | −0.1 | — | −0.1 |
| Other light[b] | −0.3 | −0.2 | — |
| Food | −0.8 | −0.1 | — |
| Other | −0.9 | — | −0.2 |
| C. *Between the material and non-material spheres* | | | |
| Material sphere | +1.9 | +0.2 | +0.1 |

*Sources*: As for table 3.4.1.

*Note*: Changes do not always sum to zero due to rounding.

[a] For Romania and the Soviet Union includes other (non-specified) sectors.

[b] Except for the Soviet Union, includes clothing, leather and footwear, glass and ceramics (except Hungary), and printing, *plus*, in the case of the German Democratic Republic and Hungary, wood and paper. For the Soviet Union, includes clothing, leather, furs and footwear only. In Hungary, glass and ceramics are included in construction materials.

In *Czechoslovakia*, investment was planned to rise from 1975 at an average annual rate of 5.4 per cent, or rather higher than the 4.9 per cent NMP growth target. The outcome was an investment growth rate of 4.1 per cent annually—a sharp deceleration compared with the 7.8 per cent annual average achieved in 1971–1975. A small rise in the investment ratio from 31.7 per cent in 1971–1975 to 34 per cent was implied in the plans. The investment cutback after 1978 resulted in a fall to slightly below the latter figure (33.7 per cent for 1976–1980 as a whole). But as NMP growth rates moderated, ICORs rose from 5.7 in 1971–1975 to an 8.6 average for the whole period, and to as high as 11.6 in 1980.

In fact, in no year were the investment levels implied by the five-year plan fulfilled in Czechoslovakia, and the shortfall calculated on this basis amounted to an average of 3.6 per cent yearly. Investment policy was thus, in practice, cautious from the outset—the ambitious original five-year objectives notwithstanding. Even so, the cutbacks after 1978 were severe, growth rates falling from 5–6 per cent in 1976–1978 to 1.8 and 1.4 per cent in 1979 and 1980.

The only figure published in the plan in relation to improving the performance of the investment sector itself was a targeted 15–18 per cent reduction in the volume of unfinished construction, and a shortening of gestation periods by a similar amount. The related indicator of fixed assets brought into operation as a percentage of total gross fixed investment in fact shows a slight fall on average between 1971–1975 and 1976–1980, though the figures for 1980 showed a considerable improvement due to a big increase (11.2 per cent) in completions in a year when investment grew only slowly.

No details were given in the five-year plans concerning the sectoral or industrial branch allocation of investment. Allocations to the material sphere rose substantially—by 2.8 percentage point—between the first and second halves of the decade. To judge from the plans for output, above-average growth in allocations could be expected in the first instance for the construction sector, followed closely by industry, and a rather smaller rise for agriculture. Within industry, by far the highest planned priority was accorded to engineering output, followed by construction materials, metallurgy and energy. This orientation was closely reflected in the developing pattern of investment allocations; construction, followed by industry, registered the only sectoral increases in the share of material sphere investment, while within industry a 3.7 percentage point rise in the share of engineering was accompanied by rises of 2.5 points in metallurgy, and 2.1 and 1.4 points respectively in energy and fuels. Despite the high rates of output growth projected, however, the share of the construction materials industry in total industrial allocations fell by nearly 2 points. It is noteworthy that there was a decline of 3.6 percentage points in chemical industry investment—the largest among the remaining sectors.

In the *German Democratic Republic*, more than in any other country of the region, the five years 1976–1980 was a period of consolidation in terms of overall growth performance—following an acceleration in investment growth in 1976 and 1977 compared with the previous quinquennium, and, quite untypically for the region, an upturn in NMP growth after 1978. The objective for investment growth in 1976–1980 was an average annual rate of 4.2 per cent over 1975—some way above the 3.8 per cent registered in 1971–1975. The final growth outcome was an average of 5.3 per cent annually. However, there was a reversion to slower growth of investment after 1977 —a full year earlier than in most other countries of the region—the sharp deceleration in 1978 being followed by even slower growth in 1979 and 1980. Nevertheless, high investment expenditure growth in 1976 and 1977 brought up the initial level to a point where slower subsequent growth did not prevent a degree of overfulfilment of plans for the period as a whole. The investment ratio, set to fall from 30.1 per cent to 29.3 per cent between the two five-year periods, grew only slightly to 31 per cent. The growth of ICORs implied by the plan target—from 5.7 to 5.9—was in fact exceeded, but the average figure of 7.6 to which it rose was not large in relation to other countries of the region, and moreover, diguises a declining trend since 1977 (to 7.1 in 1980). Again, this decline in the ratio was unique in the area, and stems above all from the acceleration in NMP growth rates at the end of the plan period.

The principal objective of investment policy was to ensure the attainment of labour productivity increases in order to reduce demands on the country's very slowly growing labour force. No quantified overall target was given, but in effect this meant raising labour productivity in the material sphere of the economy at rates above the average 3.7 per cent annual increase achieved during 1971–1975. In fact, labour productivity accelerated to 4.3 per cent annually during 1976–1980. The plan also contained provisions to concentrate investment efforts, to reduce gestation periods and to accelerate the introduction of technology. The share of completed investment in total investment improved, in fact, only slightly between the first and second halves of the 1970s—from 91.8 to 92.5 per cent—though progress in this respect accelerated in the later years of the 1976–1980 plan period. The share of investment in machinery and equipment declined rather sharply (table 3.4.4), a result due only in part to the reallocation of just over 1 percentage point of total investment to the construction-intensive non-material sphere.

Again, no detailed sectoral or industrial branch investment priorities were given. The highest output growth rates were set for industry, followed by construction and these priorities were in fact accompanied by small rises in the share of both sectors in total investment allocations (by 1.0 and 0.6 percentage points respectively). The shift towards industry intensified during the period, and by 1980 its share stood 3.3 points higher than the average for 1971–1975. The labour productivity target set for the sector was fulfilled. The raw material and fuel/energy branches together were singled out as taking first priority in industrial output, but the share of industrial investment in the latter two branches—no figure is available for the former—in fact declined by 2.5 percentage points between the first and second halves of the decade.

The 1976–1980 five-year plan for *Hungary* foresaw an annual rise in the value of investment of some 47 per cent in current prices between the average annual levels during 1976–1980 compared with 1971–1975. This amounts to an annualized rate of some 8 per cent annually. Translated into volume terms, on the assumption of constant trend rate annual average price changes, growth may have been expected to average an annualized rate of about 4.8 between the two plan periods—or some 2.1 per cent annually during 1975–1980. The latter figure shows a considerable decline compared with performance in the previous period, when average annual growth based on the year 1970 was about 5.6 per cent. The devolution of decision making powers to enterprises led, during the earlier years of the 1976–1980 period, to large rises in their investment expenditures, though they were brought under control by stricter use of the central authority's regulatory powers from 1977 onwards. Investment growth fell from a high point of 14.5 per cent (in volume terms) in 1976, to 5.5 and 1.1 per cent in 1978 and 1979, and a decline of 6.7 per cent in its absolute level took place in 1980. Nevertheless, due to the big upsurge in 1977, the absolute level of investment implied for each year of the quinquennium in the five-year plan (assuming constant average annual growth) was exceeded by large margins in all of its last four years. The average annual rate of increase, at 4.4 per cent annually after 1975, was thus more than twice as high as implied by the plan estimates.

The planned development of gross fixed investment, despite an expected slowdown in NMP growth rates, thus appears to have incorporated a fall in investment ratios from an average of 35.3 per cent in 1971–1975 to 33.6 per cent in 1976–1980. But higher than expected investment growth and a smaller than planned rate of increase in NMP growth combined to produce a rise in the ratio to 37.4 per cent. The increase in ICORs, which was planned to be modest (from 5.7 to 6.0), was also substantially bigger than had been anticipated; for the period as a whole, the ratio stood at 9.0 and, due to falling NMP levels, was negative in 1980. There is thus some evidence that, notwithstanding the emphasis placed on eliminating shortcomings in the efficiency of the investment process and of investment in relation to overall growth, the scale on which this needed to be done was considerably underestimated at the beginning of the plan period. The subsequent cutbacks, exacerbated by a higher import dependency than other countries of the region, were thus particularly sharp.

The five-year plan gave few detailed targets for improving investment performance. However, stress was laid on increasing the efficiency of the investment process, notably by shortening the gestation period of capital investment projects, and through improvement in the performance of the construction sector. Although no comparison is possible between specific targets and outcomes, there is little sign of improvement in the principal indicators available. The ratio of fixed assets brought into operation in total investment fell from an average of 91 per cent in 1971–1975 to 87.8 per cent in 1976–1980. An upturn towards the end of the last quinquennium was entirely due to falls in the rate of investment growth and, in 1980, to a fall in the absolute level of investment.

The planned changes explicitly mentioned concerning the structure of investment centred around the maintenance of the existing relationship between the material and non-material spheres of the economy, and, within industry, the allocation of a rising share of investment to the energy, fuel and raw materials branches and to export industries. The combined share of electricity, mining, metallurgy and construction materials was expected to rise to 49 per cent of the industry total. In terms of planned overall output growth rates, above-average priority was given to industry and construction, and within

TABLE 3.4.4

**Fixed capital formation by type of capital good: output of capital goods industries and foreign trade in machinery and equipment**

| | *Annual percentage change* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Gross fixed capital formation* | | *Output of capital goods industries* | | | | *Foreign trade in machinery and equipment* | | *Machinery and equipment: Percentage share in gross fixed capital formation* |
| | | | *Construction*[a] | | | | | | |
| *Country and period* | *Construction work* | *Machinery and equipment* | *Total* | *Site work* | *Building materials industry*[b] | *Engineering* | *Exports*[c] | *Imports*[c] | |
| *Bulgaria* | | | | | | | | | |
| 1971–1975 | 3.9 | 10.3 | 5.4 | 3.9 | 9.0 | 15.4 | 23.1 | 20.5 | 30.6 |
| 1976–1980 | 5.5 | 1.9 | 7.1 | 5.5 | 8.2 | 11.2 | 18.6 | 6.4 | 32.4 |
| Plan 1981–1985 | . . | . . | . . | 2.3 | . . | 8.5 | . . | . . | . . |
| 1979 | 1.9 | −10.3 | 3.6 | 1.9 | 7.0 | 5.7 | 9.5 | −0.3 | 30.8 |
| 1980 | 8.7 | 6.9 | 3.6 | 8.7 | 4.7 | 6.4 | 15.1 | 7.3 | 30.6 |
| 1981 | | | | | | | | | |
| *Czechoslovakia* | | | | | | | | | |
| 1971–1975 | 8.1 | 8.1 | 8.8 | 8.5 | 6.5 | 8.4 | 9.6 | 15.4 | 36.2 |
| Plan 1976–1980 | . . | . . | . . | 6.2–6.5 | 7.0–7.3 | 8.2–8.6 | . . | . . | . . |
| 1976–1980 | 2.5 | 6.9 | 3.4 | 3.3 | 4.8 | 8.1 | 13.9 | 11.6 | 40.2 |
| Plan 1981–1985 | . . | . . | . . | . . | . . | 5.1–5.9 | . . | . . | . . |
| 1979 | 0.6 | 3.6 | 1.3 | 2.5 | 2.5 | 6.5 | 6.6 | 8.0 | 41.2 |
| 1980 | 0.5 | 2.8 | 2.5 | 1.9 | 4.1 | 4.6 | 12.2 | −12.9 | 41.7 |
| 1981 | −2.4 | −5.3 | . . | −2.0 | 1.5 | 3.9 | 5.5 | . . | 41.0 |
| Plan 1982 | . . | . . | . . | . . | . . | 3.0 | . . | . . | . . |
| *German Democratic Republic* | | | | | | | | | |
| 1971–1975 | 5.1 | 2.8 | 6.2 | 5.8 | 6.8 | 6.8 | 11.6 | 9.4 | 50.1 |
| Plan 1976–1980 | . . | . . | . . | 5.0 | 7–7.3 | . . | . . | . . | . . |
| 1976–1980 | 5.4 | 3.9 | 4.5 | 4.2 | 5.7 | 7.0 | 12.6 | 12.6 | 48.3 |
| Plan 1981–1985 | . . | . . | 3.4 | . . | . . | 7.0 | . . | . . | . . |
| 1979 | 1.1 | 2.0 | 1.8 | – | 0.9 | 7.1 | 15.2 | 8.3 | 48.1 |
| 1980 | −0.8 | 1.0 | 1.8 | −3.3 | 2.0 | 7.6 | 0.2 | 3.9 | 48.4 |
| 1981 | . . | . . | . . | 4.1 | . . | [d] | . . | . . | . . |
| Plan 1982 | . . | . . | 2.5 | . . | . . | [d] | . . | . . | . . |
| *Hungary* | [e] | [e] | | | | | | | |
| 1971–1975 | 3.9 | 8.6 | 4.8 | 4.5 | 4.6 | 7.3 | 17.0 | 13.3 | 37.6 |
| Plan 1976–1980 | . . | . . | . . | 5.5–6.0 | 5.2–5.5 | 6.3–6.7 | . . | . . | . . |
| 1976–1980 | 3.9 | 4.3 | 4.3 | 4.3 | 4.7 | 4.9 | 8.2 | 5.4 | 40.3 |
| Plan 1981–1985 | . . | . . | . . | 2.1–2.8 | . . | . . | . . | . . | . . |
| 1979 | 3.0 | −1.8 | 5.2 | 5.1 | 3.9 | 3.6 | 17.6 | −0.2 | 40.4 |
| 1980 | −4.1 | −9.9 | −4.3 | −4.6 | 1.5 | −5.7 | −0.3 | −13.6 | 38.6 |
| 1981 | −3.5 | – | −2.0 | −3.5 | −1.2 | 5.0 | . . | . . | . . |
| Plan 1982 | . . | . . | . . | . . | . . | . . | . . | . . | . . |
| *Poland* | | | | | | | | | |
| 1971–1975 | 14.8 | 23.1 | 14.0 | 14.6 | 8.1 | 14.4 | 16.6 | 27.2 | 36.1 |
| 1976–1980 | −2.0 | 2.1 | 1.2 | 2.2 | 3.5 | 9.1 | 13.0 | 6.1 | 41.3 |
| Plan 1981–1985 | . . | . . | . . | . . | . . | . . | . . | . . | . . |
| 1979 | −6.5 | −10.0 | −2.8 | −4.6 | −0.4 | 5.1 | 5.3 | −1.5 | 40.7 |
| 1980 | −17.9 | −4.1 | −11.0 | −11.1 | 1.4 | −0.9 | −15.2 | −0.7 | 44.1 |
| 1981 | . . | . . | . . | −20.0 | . . | . . | . . | . . | . . |
| Plan 1982 | . . | . . | . . | . . | . . | . . | . . | | |

TABLE 3.4.4 (*continued*)

| | *Annual percentage change* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Gross fixed capital formation* | | *Output of capital goods industries* | | | | *Foreign trade in machinery and equipment* | | *Machinery and equipment: Percentage share in gross fixed capital formation* |
| | | | *Construction*[a] | | | | | | |
| *Country and period* | *Construction work* | *Machinery and equipment* | *Total* | *Site work* | *Building materials industry*[b] | *Engineering* | *Exports*[c] | *Imports*[c] | |
| *Romania* | | | | | | | | | |
| 1971–1975 | 8.4 | 16.1 | 7.3 | 7.2 | 10.8 | 18.7 | 21.5 | 16.3 | 38.0 |
| Plan 1976–1980 | . . | . . | . . | 7.2 | 9.1–10.0 | 11.9–12.6 | . . | . . | . . |
| 1976–1980 | 6.6 | 13.8 | 9.2 | 7.2 | 15.0 | 13.6 | 16.5 | 13.7 | 47.4 |
| Plan 1981–1985 | . . | . . | . . | . . | 5.5–6.5 | 8.8 | | . . | . . |
| 1979 | 4.2 | 3.7 | 3.7 | 3.0 | 12.4 | 11.5 | 8.9 | 3.8 | 48.0 |
| 1980 | −0.3 | 5.7 | −0.5 | −0.4 | 4.7 | 10.1 | 24.0 | −7.1 | 49.3 |
| 1981 | . . | . . | . . | . . | 1.6[f] | 2.3 | . . | . . | . . |
| Plan 1982 | . . | . . | . . | . . | . . | . . | . . | . . | . . |
| *Soviet Union* | | | [g] | | | | | | |
| 1971–1975 | 6.3 | 7.9 | 6.7 | 7.1 | 7.7 | 12.0 | 12.5 | 15.4 | 31.1 |
| Plan 1976–1980 | . . | . . | . . | 7.2 | 5.4 | 8.9 | . . | . . | . . |
| 1976–1980 | 1.2 | 7.2 | 2.6 | 2.5 | 2.4 | 8.9 | 14.7 | 13.4 | 36.1 |
| Plan 1981–1985 | 1.0* | 2.9* | . . | . . | . . | 7.0 | . . | . . | 39.1 |
| 1979 | −0.6 | 3.6 | 1.9 | 0.6 | −0.6 | 7.6 | 6.2 | −0.8 | 37.0 |
| 1980 | 0.3 | 3.9 | 3.1 | 0.7 | 1.3 | 6.2 | 5.6 | 4.7 | 37.6 |
| 1981 | . . | . . | . . | 2.0 | 2.0 | 6.0 | . . | . . | . . |
| Plan 1982 | . . | . . | . . | . . | . . | . . | . . | . . | . . |

*Sources:* As for table 3.4.1.

*Note:* Five-year results are geometrical averages—see footnote 304 on page 236.

[a] Of the two series shown for construction output, the "total" column refers to all activity according to national accounts definitions and covers site work ("construction-installation work")—shown in the next column—together with planning, design and survey work undertaken by all enterprises, whether or not mainly engaged in construction, and in all sectors of the economy (including private housing and non-housing output). Inter-country coverage for total output is broadly comparable, and coincides with the coverage of data for fixed assets and employment in construction shown in table 3.4.5. Site work is the main planning aggregate and refers to building activity proper, including repair and maintenance work. However, historical data are not always fully comparable, either between countries or for a given country with latest year estimates and plan targets; the coverage may variously include all sectors, the socialist sector only, construction firms' output only, etc. Site work as shown covered 74–86 per cent of total construction activity in 1980 (but only 67 per cent in Bulgaria due to the exclusion of repair and maintenance work). Despite discrepancies, the linking of plan targets with historical series for site work appears to give a fair indication of trends in building output proper.

[b] Output of the building materials industry only except for the German Democratic Republic, for which series covers output of all sectors and industrial branches.

[c] At current prices (national currencies) except for Hungary, 1976–1980 only, for which data are expressed in constant 1976 forint prices and the German Democratic Republic for which data are based on transferable roubles.

[d] Recent plans for 1981 and 1982 for the German Democratic Republic, and the actual degree of plan fulfilment in 1981 (plan target = 100), were as follows:

| | *Plan 1981* | *Actual 1981* | *Plan 1982* |
|---|---|---|---|
| Ministry for electrical and electronic engineering | 8.9 | 101.5 | 7.7 |
| Ministry for heavy machinery and equipment | 5.9 | 101.2 | 5.7 |
| Ministry for machine tools and processing machinery | 9.1 | 101.2 | 8.7 |
| Ministry for general earthmoving and transport machinery | 7.8 | 101.2 | 6.7 |

[e] Socialist sector only.

[f] Including wood and paper.

[g] At current prices.

industry to energy, engineering and, especially, to the chemical industry where output growth was set half as high again as the industrial average.

Sectoral plan-fulfilment results differed only marginally from plans, though investment in the material sphere of the economy increased its share by 1.6 percentage points. Industry's share rose by 3 percentage points, and that of construction also rose slightly. The fuel and energy branches increased their share of industrial investment by 2.3 and 1.7 percentage points. The relative level of engineering rose by nearly 2 percentage points, but the chemical industry's share, following the trend in most other countries of the region, fell back by 3.8 percentage points. The combined target for electricity, mining, metallurgy and construction materials was not attained for the 1976–1980 period as a whole, the joint share of these branches amounting to only 42 per cent of the industry total (against the 49 per cent planned), but their share reached 51 per cent in 1980.

The 1976–1980 five-year targets for *Poland* were conditioned, above all, by the huge upsurge in investment expenditures, based largely on imported machinery and equipment, during 1971–1975. The very rapid rise registered in 1971–1974 (20–25 per cent annually) slowed down to a still large 10 per cent in 1975. Thereafter, annual investment expenditure growth was set at virtually zero rates compared with 1975. But although Poland was thus the first country of the region to introduce a no-growth target for investment during a five-year plan period, the level of capital expenditures planned during 1976–1980 was still as much as 40.6 per cent above the average for 1971–1975. In fact it proved impossible, at least initially, to curb the growth of investment as quickly as planned. This may have reflected the steep decline which took place in the ratio of fixed assets brought into operation to total investment over the 1971–1975 period (71.8 per cent in 1975 compared with 84.0 per cent in 1970), indicating that allocations to terminate unfinished projects after the 1971–1975 investment boom continued to push up expenditures. Investment growth was nonetheless cut back severely—to between 1–3 per cent annually during 1976–1978. Over the whole period 1976–1980, the average level of expenditures was somewhat below 1975, but still nearly 40 per cent above the total in 1971–1975. Investment ratios fell back in successive years from the high point of 38.5 in 1975 to 33.3 per cent in 1980—still slightly higher than in 1970–1975. For the 1976–1980 period as a whole the ratio (35.9 per cent) was still considerably higher than implied by the plan (31.5 per cent). This is due to the 15 per cent shortfall in NMP levels compared with the plans. The effects of the slowdown in the growth, and ultimate decline, in NMP levels was a rise in the ICOR average for 1976–1980 to 18.7, compared with only 2.9 in 1971–1975, and the 4.4 planned for 1976–1980. Though no direct information on capacity utilization is available, it is likely that difficulties in completing projects under these circumstances made a substantial contribution to the very large declines in capital productivity between 1975 and 1980—the biggest of any country in the region (table 3.4.8).

Most investment efficiency indicators declined during the last five years of the 1970s. Policies as presented in the five-year plan for the period emphasized a broad programme of development and modernization of productive potential—objectives which were to receive priority allocations of funds. Performance indicators show that for the economy as a whole, the share of fixed assets brought into operation in total investment expenditure increased—mainly because up to 1979, completed investments rose while investment expenditures slowed down. The result was a small improvement in the ratio from 82.4 per cent in 1971–1975 to 86.3 per cent in 1976–1980, and to 91.9 per cent in 1979. A fall in completed investments in 1980 resulted in a decline in this indicator, to 91.9.

As in most countries of the region, little specific information was published on sectoral/branch investment allocation plans. There was an actual fall of 2.3 percentage points, the highest in the region, in the share of allocations to the material sphere between 1971–1976 and 1976–1980. Apart from construction—which increased its share in total investment in the material sphere by 0.8 percentage points—transport and communications were singled out for attention by the plan. The outcome was a decline of 1.6 percentage points in the share of these two sectors combined. Industry was given the highest output targets (closely followed by construction), but its share in material sphere investment fell by 1.4 percentage points. There was, however, a big rise in agriculture's share of investment towards the end of the 1976–1980 period, the change between the first and second halves of the 1970s amounting to 1.7 percentage points. Within industry, the highest growth targets were awarded to chemicals, followed by engineering. These objectives were supported by a relative increase in their share of total industrial investment. Energy, for which a slightly lower than average rate of growth was projected, increased its investment share by 1.3 percentage points. The share of fuel fell on average between the two five-year periods. There was, however, a very large shift of resources into both these branches in 1980, when their combined share of industrial investment rose to no less than 11.2 percentage points above the average for 1971–1975.

*Romania*, along with Czechoslovakia, was one of the two countries of the region to propose a faster rise in investment than in NMP during 1976–1980 (12.9 per cent annually against a still high 11.1 per cent NMP growth).[305] Neither target was achieved, but the biggest shortfall was for NMP, and actual growth in 1976–1980 continued to be investment-led (9.8 per cent against NMP growth of 8.5 per cent). This was only a little lower than the 10.7 per cent investment growth performance registered in 1971–1975. These movements led to a substantial rise in the already high investment ratio, which topped out at a 40.5 per cent average for 1976–1980 compared with 37.9 in 1971–1975, though it was marginally lower than planned (40.9 per cent). Since NMP growth throughout all but the latest years of the 1976–1980 has been the highest in the region—though it declined progressively in each year—on average the ICOR remained, at an average of 4.8, the lowest in the region. This was higher than the ratio of 3.3 recorded in 1971–1975, and also than the 3.7 planned for 1976–1980. Moreover, it rose in each year of the five-year plan to a high point of 13.9 in 1980. This is a relatively new phenomenon for Romania, and it is clear that changes took place which severely disturbed the traditional role of investment within the economy in much the same way as was experienced rather earlier in the other countries of the region.

Some emphasis in the plan was laid on the need to improve the efficiency of the economy as a whole. But few specific tasks were laid down for improving the investment process itself beyond a call to reduce gestation periods to within the limits of schedules laid down—by improving the documentation of projects, etc. For the construction industry itself, better organization of work, an extension of the use of industrialized methods and more intensive use of equipment was called for. However, during

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[305] Revised 1976–1980 five-year plan data, as published in December 1977. It is noteworthy that the revised plan proposed even higher rates of growth for most main indicators—including investment—than had the original five year-plan document.

1976–1980, the ratio of fixed assets brought into operation to total investment declined fairly steeply (from 91.3 per cent in the previous five years to 82.4 per cent) the ratio falling noticeably in the earlier years of the period. Against this, the share of machinery and equipment in total investment rose sharply (from 38.0 per cent in the earlier period to 47.4 per cent in 1976–1980), only part of which was due to a 1 percentage point rise in the share of the less construction-intensive material sphere in total investment.

Unlike other countries of the region, the five-year plan gave some details on the sectoral share of investment allocations in 1976–1980. This can be compared with actual outcomes as follows:

| | *Industry* | *Construction* | *Agriculture* | *Transport and communications* | *Other* | *Total* |
|---|---|---|---|---|---|---|
| Plan . . . . | 58.1[a] | 3.4 | 11.6 | 9.5 | 17.4 | 100.0 |
| Actual . . . | 48.6 | 4.0 | 14.6 | 10.0 | 22.8 | 100.0 |

[a] Including oil drilling equipment.

Though plan figures do not, apparently, follow the same classification as used in the main statistical sources, they suggest that the share of both the agriculture sector, and also that of the non-material sphere as a whole, may have grown more rapidly than foreseen in relation to total investment. The industrial sector may have grown somewhat more slowly than planned. No similar figures exist for the branch distribution within industry. Output targets showed a much faster than average growth objective for the chemical industry (49 per cent higher than average), followed by engineering (15 per cent higher) and metallurgy. The fuel and energy branches were two of the lowest priority activities (rates of output growth planned at more than 25 per cent below the average of all branches). Apart from chemicals, which registered a 0.5 percentage point fall, the structure of investment in 1976–1980 moved roughly as suggested by industrial output targets. Engineering was responsible for the biggest shift, with a 5.8 percentage point increase in its share of industrial investment.

The 1976–1980 five-year plan of the *Soviet Union* came closer to fulfilment in terms of investment expenditure and overall output growth than those of all the other countries of the region. Stronger than expected growth of production in the early years of the plan period provided a reserve after 1978, when percentage growth rates, as in the other countries, fell sharply. However, these was an abrupt unplanned acceleration of investment growth in 1978 which despite a subsequent deceleration, boosted the five-year average of expenditures to levels about 2 percentage points higher than anticipated. Nevertheless, investment growth in 1976–1980 was, at an average of 3.9 per cent annually over 1975, considerably lower than the comparable figures for 1971–1975, but slightly higher than the plan target of 3.2 per cent annually.

The growth paths of investment and overall output were for the most part closely aligned. There was a net fall in the investment ratio to 28.9 per cent in 1980. The average for the period (29.4 per cent) was only marginally above the level in 1971–1975 and only about 0.5 percentage points higher than planned. But the declining NMP growth rate produced a rather bigger movement in ICORs by the end of the period. From an average of 5.1 in the first half of the decade, the ratio rose to 13.3 and 8 per cent respectively in 1979 and 1980. Even so, the average over the five years was only slightly higher than implied by the plans (6.2 as against 6.1).

The five-year plan, to a greater extent than in most other countries of the region, laid stress on the intensification process—not least with regard to investment. One of the basic tasks laid down was to increase the efficiency of investment by shortening lead times, accelerating the commissioning of capital investments, and improving the quality and lowering the costs of construction work. Among the quantitative targets laid down was an increase to 105.4 per cent in the ratio of fixed assets brought into operation to total investments. The coefficient stood at 97.5 in 1980.

With regard to sector and branch allocations, no precise indications were given. the share of investment in the material sphere rose by nearly 2 percentage points. Construction and industry were to increase output at above average rates, but only construction increased its share of total investment allocations (by 0.2 percentage points). Industry's share fell by 0.8 percentage points. Other sectors remained more or less stable over the period. For industry, the priority branches were chemicals and engineering, with target growth rates 64 and 41 per cent respectively above the average for industry as a whole. Both branches increased their share of total investment allocations to industry—by only 0.8 percentage points in the case of chemicals but by 2.2 per cent for engineering. However, the share of chemicals declined substantially after 1978 as in other countries of the region. The main priority branch after these two was the fuel industry which, due to a big jump in 1979 and 1980, increased its share in 1976–1980 compared with 1971–1975 by 2.3 percentage points within the industry total.

### (iii) Investment sector management

There was only a limited degree of innovation with regard to the basic principles of the investment sector management during the last decade. A number of experiments in *organization* have been made in various countries and their results introduced. These have tended towards extending the responsibilities of financial accounting (*khozraschet*) upwards to ministries of construction and other regional or central management organs; to the creation, notably in the Soviet Union, of territorally-based construction organizations—especially in the new territories where natural resource exploitation is now being developed on a large scale, and along major transport arteries in these regions; to the creation of specialized construction organizations catering for

TABLE 3.4.5

### Gross output and factor inputs in construction

*(Annual percentage change)*

| Country and period | Gross output total[a] | Fixed assets[b] | Employment[c] | Per employee: Gross output | Per employee: Fixed assets |
|---|---|---|---|---|---|
| *Bulgaria* | d | | | | |
| 1971–1975 | 5.4 | 13.6 | 0.3 | 5.1 | 13.3 |
| 1976–1980 | 7.1 | 10.0 | 1.0 | 6.0 | 10.0 |
| 1979 | 3.6 | 9.4 | 0.8 | 2.8 | 8.5 |
| 1980 | 3.6 | 6.5 | 0.3 | 3.3 | 6.2 |
| *Czechoslovakia* | | | | | |
| 1971–1975 | 8.8 | 9.3 | 2.5 | 6.1 | 6.6 |
| 1976–1980 | 3.4 | 8.3 | 1.2 | 2.2 | 7.0 |
| 1979 | 1.3 | 7.8 | 1.3 | – | 6.4 |
| 1980 | 2.5 | 5.9 | 0.3 | 2.2 | 5.6 |
| *German Democratic Republic* | | | | | |
| 1971–1975 | 6.2 | 7.5 | −1.3 | 7.8 | 9.1 |
| 1976–1980 | 4.5 | 8.4 | 1.1 | 3.4 | 7.2 |
| 1979 | 1.8 | 7.5 | 0.5 | 1.3 | 7.0 |
| 1980 | 1.8 | 8.3 | 0.6 | 1.2 | 7.7 |
| *Hungary* | | | | | |
| 1971–1975 | 4.8 | 15.4 | 0.6 | 4.2 | 14.7 |
| 1976–1980 | 4.3 | 13.0 | −0.2 | 4.5 | 13.2 |
| 1979 | 5.2 | 11.9 | −2.1 | 7.5 | 14.3 |
| 1980 | −4.3 | 7.2 | −1.5 | −2.8 | 8.8 |
| *Poland* | | | | | |
| 1971–1975 | 14.0 | 13.4 | 8.7 | 4.9 | 4.3 |
| 1976–1980 | 1.2 | 13.4 | −0.8 | 2.0 | 14.0 |
| 1979 | −2.8 | 13.5 | −1.6 | −1.2 | 14.3 |
| 1980 | −11.0 | 7.5 | −2.6 | −8.6 | 10.4 |
| *Romania* | | | | | |
| 1971–1975 | 7.3 | 15.3 | 2.3 | 4.9 | 12.7 |
| 1976–1980 | 9.2 | 17.4 | 2.6 | 6.4 | 14.4 |
| 1979 | 3.7 | 12.4 | 1.5 | 2.2 | 10.7 |
| 1980 | −0.5 | 3.8 | −8.3 | 8.5 | 13.2 |
| *Soviet Union* | d | | | d | |
| 1971–1975 | 6.7 | 10.6 | 3.7 | 2.9 | 6.7 |
| 1976–1980 | 2.6 | 10.6 | 1.6 | 1.0 | 8.9 |
| 1979 | 1.9 | 8.3 | 1.2 | 0.7 | 7.0 |
| 1980 | 3.1 | 5.8 | 1.0 | 2.1 | 4.8 |

*Sources:* As for table 3.4.1.

*Note:* Geometric averages were used to compute percentage changes over five-year periods—see footnote 304 on page 236.

[a] See footnote *a* to table 3.4.4.

[b] End-year except for the German Democratic Republic for which annual averages are shown. Fixed assets are valued at constant prices for all countries except Bulgaria and Romania, where full historical cost valuation is used.

[c] Annual averages except for the German Democratic Republic, Hungary and Romania, where data relate to employment on enumeration dates (30 September in the German Democratic Republic and 31 December in Hungary and Romania). Hungarian figures refer to manual workers only.

[d] Current prices.

particular industries such as chemicals; to changes in contractual relationships between construction organizations and their client enterprises, and also in credit and other financial arrangements, designed to encourage the termination and speedy working up of newly commissioned projects; and to the extension downwards of new responsibilities to site-level construction "brigades", themselves working under *khozraschet* principles. In addition, several countries have reduced the share of central budget allocations in total investment financing; the share of bank credit has been increased in order to ensure tighter supervision over the conformity of actual expenditures with the technical performance and other criteria for which they were disbursed.

The available indicators for directly evaluating the results of these innovations are very limited, and have, where available, been described in summary form in part (ii) of this section. From the point of view of cutting commissioning times there have been some, in general modest, improvements, but they have not succeeded in reversing trends towards the slower growth or absolute decline of labour and capital productivity, respectively, in any country of the region.[306]

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[306] More detailed summaries of these innovations can be found in the *Economic Survey of Europe in 1976, 1977, 1978 and 1979.*

## TABLE 3.4.6

### Labour productivity changes in relation to the growth of fixed assets

*(Indices of labour productivity growth divided by indices of fixed asset growth)*

A. Material sphere

| | *Industry* | *Construction* | *Agriculture* | *Transport and communications* | *Trade* | *Total material sphere* |
|---|---|---|---|---|---|---|
| A. *Average 1976–1980* (average 1971–1975 = 100) | | | | | | |
| Bulgaria | 93.5 | 73.0 | 87.2 | 82.3 | 91.3 | 93.5 |
| Czechoslovakia | 92.1 | 72.0 | 81.0 | 104.2 | 87.0 | 90.9 |
| German Democratic Republic | 94.4 | 79.7 | 83.6 | 94.0 | 96.0 | 93.2 |
| Hungary | 93.4 | 73.2 | 86.1 | 94.9 | 73.3 | 93.2 |
| Poland | 81.9 | 50.8 | 75.0 | 92.9 | 89.0 | 82.3 |
| Romania | 75.4 | 64.3 | 100.7 | 72.5 | 86.4 | 89.9 |
| Soviet Union | 85.4 | 70.9 | 77.2 | 81.2 | . . | 82.6 |
| B. *1980* (1970 = 100) | | | | | | |
| Bulgaria | 79.6 | 54.5 | 67.8 | 76.0 | 114.6 | 86.1 |
| Czechoslovakia | 85.7 | 60.0 | 70.7 | 112.1 | 71.2 | 85.3 |
| German Democratic Republic | 89.4 | 66.4 | 77.6 | 86.3 | 92.5 | 88.1 |
| Hungary | 85.9 | 45.3 | 76.6 | 92.0 | 54.3 | 86.1 |
| Poland | 66.7 | 27.1 | 61.5 | 98.9 | 96.6 | 71.5 |
| Romania | 57.0 | 45.1 | 100.9 | 49.2 | 79.6 | 82.7 |
| Soviet Union | 73.5 | 50.2 | 57.1 | 64.6 | . . | 66.7 |

B. Industry

| | *Energy* | *Fuel* | *Metallurgy* | *Engineering* | *Chemicals* | *Construction materials* | *Wood, paper* | *Textiles* | *Other light industry* | *Food* | *Total industry* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A. *Average 1976–1980* (average 1971–1975 = 100) | | | | | | | | | | | |
| Bulgaria | 70.0 | 103.5 | 116.5 | 97.9 | 97.1 | 81.5 | 88.1 | 89.3 | 76.8 | 77.5 | 90.1 |
| Czechoslovakia | 75.7 | 85.0 | 99.2 | 101.4 | 100.9 | 87.8 | 84.5 | 94.6 | 93.5 | 87.9 | 94.3 |
| German Democratic Republic[a] | 81.1 | | 104.6 | 93.0 | 107.6 | 105.9 | . . | 111.0 | 90.6 | 89.6 | 97.0 |
| Hungary | 93.0 | 94.0 | 94.9 | 91.7 | 91.9 | 87.6 | . . | 93.4 | 83.6 | 73.6 | 89.2 |
| Poland | 90.5 | 80.7 | 75.5 | 75.3 | 92.6 | 89.5 | 85.4 | 84.4 | 85.2 | 76.7 | 81.7 |
| Romania | | | | | | | | | | | |
| Soviet Union | 86.5 | 81.4 | 82.8 | 88.1 | 84.7 | 79.1 | 83.7 | 82.7 | 83.0 | 80.2 | 83.2 |
| B. *1980* (1970 = 100) | | | | | | | | | | | |
| Bulgaria | 57.7 | 120.4 | 123.8 | 74.0 | 74.6 | 60.0 | 74.7 | 78.0 | 61.5 | 75.5 | 78.3 |
| Czechoslovakia | 63.0 | 75.7 | 97.4 | 103.0 | 102.1 | 80.5 | 74.2 | 91.3 | 87.9 | 80.5 | 92.2 |
| German Democratic Republic[a] | 81.1 | | 104.6 | 93.0 | 107.6 | 105.9 | . . | 111.0 | 90.6 | 89.6 | 97.0 |
| Hungary | 87.7 | 80.9 | 81.6 | 79.7 | 83.4 | 65.6 | . . | 82.2 | 73.8 | 58.9 | 78.6 |
| Poland | 76.1 | 63.1 | 60.6 | 62.4 | 83.0 | 85.2 | 78.2 | 65.6 | 73.0 | 60.4 | 68.2 |
| Romania | | | | | | | | | | | |
| Soviet Union | 75.9 | 70.9 | 70.3 | 79.5 | 71.8 | 64.4 | 70.8 | 79.4 | 67.0 | 67.1 | 70.5 |

*Sources:* As for table 3.4.1.

*Note:* For sector and branch coverage, see note and footnotes to table 3.4.8.

[a] 1976/1970.

The output record of the *construction sector and the building materials industry* has varied between countries (table 3.4.5). But its performance has been the subject of discussion in all of them, and almost all countries' five-year plans called for improvements in its efficiency as a precondition of improved performance by the investment sector.

From the data presented in table 3.4.5, construction activity slowed down considerably between 1971–1975 and 1976–1980. This reflected not only the fall in total rates of investment growth, but also the fall in the share of construction work in the total, which was a consequence of the restrictions placed on the start-up of new projects in an effort to improve the rate of project completions in most countries of the region (table 3.4.4). However, quite apart from the slowdown in construction activity, it would appear that the construction sector's performance has not improved relative to the increase in inputs, notably fixed assets, over the whole of the last decade. As in other countries, the sector has special problems due to changes in the location of work and high turnover in the labour force. Its average level of labour productivity is low in relation to other sectors, and its labour force is less skill and capital intensive than most. Nevertheless, in all countries of the region intensive efforts have been made to remedy shortcomings by a very substantial infusion of resources during the last decade. The sector has thus generally increased its share of total investment and fixed assets both during 1971–1975 and again in 1976–1980.[307] However, the cost, in terms of fixed assets, of achieving increases in labour productivity rose much faster than the average for the material sphere as a whole throughout the region (table 3.4.6). The construction sector was in fact—with agriculture—the worst performer in this respect in all countries. While there was some improvement in this indicator in Bulgaria and Hungary during the second half of the decade, it still remained low vis-à-vis the rest of the material sphere, and in the other countries the implied performance differential widened between the two quinquennia. The gain in labour productivity from an incremental unit of fixed assets in the construction industry fell by 33–35 per cent, depending on the country, (by 73 per cent in Poland) between 1970 and 1980, compared with a range of 12–33 per cent for the material sphere as a whole.

The same appears to be true, though to a less marked degree, of the construction materials industry in four out of the five countries for which data are available on the industrial distribution of fixed assets throughout the decade. In contrast to the construction sector, the branch's share of investment fell between the first and second halves of the 1970s in all countries but Bulgaria. In Bulgaria, Czechoslovakia, Hungary and the Soviet Union the labour productivity gain of the branch per incremental unit of fixed assets fell by 20–36 per cent over the decade, compared with a range of 8–30 per cent for industry as a whole. The fall in the share of investment allocations to this branch relative to total industry was, in fact, fairly steady over the 1970s (except in Bulgaria), though there were some minor reversals of the trend in 1979 and 1980.

Despite above average, even heavy, infusions of new capital in all countries but Bulgaria between the two halves of the 1970s, labour productivity growth in the construction sector was well below the average for the material sphere in every country of the region but Hungary. Similarly, the decline in capital productivity was considerably faster than the average for all sectors. This suggests on the one hand that the organizational problems of the construction sector itself remain of considerable importance. The emphasis laid in both annual and five-year plans on the need to remedy the scattering of investment resources over an excessively large number of projects points to what is probably a principal cause of the sector's below average performance. And the record of the construction materials industry may indicate some further reasons: although the labour productivity record of this branch has been on the whole good in relation to the industrial average, its reduced share of industrial investment may have inhibited progress in switching output to technically exacting industrialized building components, the production of which is relatively capital intensive. Shortages of these items have been reported in all countries of the region during the 1970s, with consequent effects on the performance of the construction sector.

Thus, while the *supply of building materials* relative to sitework and construction activity in investment as a whole either eased or remained about the same between the two halves of the decade in all countries of the region (table 3.4.4), it may not have been possible for the industry to have kept pace with the qualitative requirements of the construction sector. The more relaxed supply situation thus probably reflects more the slowdown in construction activity after 1978 than any upgrading of the construction materials industry's own performance.

With regard to *engineering goods*, the situation is more complex. Although engineering output has in all countries more than kept pace with the corresponding investment expenditures, the role of imports became considerably more important during the 1970s and in particular, imports from western countries. Although no detailed volume figures for this category of imports are available, the small increases in value terms and even declines in some countries of the region, show that supplies from the west became progressively more limited during 1976–1980. As for intra-regional trade, increased allocations of these goods for export outside the region, to less developed countries in particular, as part of the drive to redress trade balances, may have reduced opportunities for replacing western supplies by imports from other countries of the region.

### (iv) Structural change in the investment sector 1976–1980

The size of structural changes in investment allocations between the five-year periods 1971–1975 and 1976–1980 varied according to the level of aggregation considered. At the highest level—changes in allocations between the material and non-material spheres—there were substantial differences between countries though they tend to offset one another when the region is considered as a whole. For allocations within the main sectors of the material sphere common trends are discernible. Within industry, structural shifts were significantly bigger than in the material sphere as a whole; in recent years, moreover, the magnitude of change has accentuated, and there has also been an increasing convergence in branch allocation patterns as between countries.

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[307] The one exception is Bulgaria, where construction increased its share of fixed assets in the material sphere, while its corresponding share in investment declined. There was apparently a very big decline in fixed asset write-off rates over the decade.

TABLE 3.4.7

**Structural change in investment**
(*Indices, 1970 = 100*)

| | *1971* | *1972* | *1973* | *1974* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* |
|---|---|---|---|---|---|---|---|---|---|---|
| *Material sphere* | | | | | | | | | | |
| Bulgaria | 97.9 | 94.4 | 95.0 | 91.5 | 91.5 | 94.0 | 94.2 | 91.6 | 92.9 | 95.0 |
| Czechoslovakia | 98.8 | 96.9 | 99.0 | 97.4 | 95.9 | 97.4 | 96.9 | 95.8 | 96.5 | 95.3 |
| German Democratic Republic | 98.0 | 96.0 | 94.9 | 97.0 | 97.2 | 96.6 | 97.6 | 95.9 | 94.3 | 93.2 |
| Hungary | 95.9 | 93.8 | 94.0 | 94.1 | 93.3 | 92.1 | 89.8 | 90.9 | 91.9 | 91.0 |
| Poland | 98.2 | 95.6 | 93.0 | 93.2 | 93.5 | 91.9 | 93.0 | 93.6 | 95.8 | 96.3 |
| Romania | 96.7 | 97.1 | 96.5 | 94.4 | 93.1 | 95.1 | 93.7 | 92.5 | 91.4 | 88.8 |
| Soviet Union | 98.4 | 97.7 | 97.2 | 96.4 | 96.9 | 96.8 | 97.1 | 96.3 | 96.1 | 96.7 |
| *Industry* | | | | | | | | | | |
| Bulgaria | 88.7 | 90.6 | 86.3 | 90.2 | 92.2 | 94.7 | 89.1 | 91.9 | 87.0 | 83.9 |
| Czechoslovakia | 97.2 | 93.1 | 91.9 | 93.7 | 91.6 | 91.3 | 90.3 | 84.2 | 83.8 | 83.9 |
| German Democratic Republic | 96.0 | 90.4 | 89.0 | 89.2 | 89.2 | 87.5 | 87.4 | 88.3 | 91.8 | 89.9 |
| Hungary | 93.2 | 89.6 | 88.4 | 88.6 | 89.5 | 90.5 | 90.6 | 91.9 | 89.8 | 87.8 |
| Poland | 97.7 | 94.3 | 90.9 | 90.3 | 88.8 | 87.7 | 87.9 | 88.3 | 91.7 | 88.4 |
| Romania | 98.3 | 96.4 | 94.3 | 92.2 | 90.8 | 90.0 | 89.4 | 87.9 | 87.0 | 85.6 |
| Soviet Union | 99.1 | 98.7 | 97.3 | 96.1 | 95.3 | 94.8 | 93.3 | 91.0 | 92.1 | 91.5 |

*Sources:* As for table 3.4.1.

*Note:* This index is calculated as 100 *minus* half the sum of changes in shares between a base year and subsequent years, viz. $100 - 0.5\sum_i |a_{in} - a_{i70}|$ are the percentage shares of sector or branch i in total (i.e. material sphere *or* industrial investment in year n and in the year 1970, respectively. See also *Economic Survey of Europe in 1980*, p. 189.

A reallocation of resources from the non-material to the material sphere occurred in Czechoslovakia, Hungary, Romania and the Soviet Union. In all four countries, the share of the material sphere increased by 1.5–3.0 percentage points between 1971–1975 and 1976–1980, though the trend reversed in the first two countries after 1978 (table 3.4.3). In contrast, the reallocation towards the non-material (services) sphere which occurred in the German Democratic Republic and in Poland between the first and second halves of the 1970s (1.2 and 2.3 percentage points) gathered strength in 1979 and 1980 as also in Bulgaria where the shift was, however, smaller. No consistent explanation for these trends can be discerned. There are sharp differences between pairs of countries at similar levels of development (Bulgaria and Romania; Czechoslovakia and the German Democratic Republic; Poland and Hungary). Nor do they relate well to the rate of investment growth, or to performance in fulfilling plan targets. Poland is perhaps an exceptional case; after the heavy concentration on industrial, agricultural and other productive investment during 1971–1975, which was accompanied by a 3-point fall in the share allocated to the non-material sphere between 1970 and 1975, measures were taken to redress the situation during 1976–1980. In the other countries, specific features such as housing demand may have also played a role. In Bulgaria and the German Democratic Republic, the relatively low growth in ICORs between the two periods discussed earlier may have made possible a shift of resources to the service sector without greatly influencing material growth plans.

Within the material sphere, structural change over the period was strongest in Hungary and Romania, where the *index of structural change* moved by 9 and 11 points respectively between 1970 and 1980 (table 3.4.7).[308] In the other countries, the movement ranged between 3.3 points (Soviet Union) and 5 points (Bulgaria). At this level of aggregation, therefore, structural change has been modest since 1970, though it is noteworthy that for most countries (except the Soviet Union) this stemmed from a halt, and often a reversal, of a more lively movement between 1970 and 1975–1976.

Only Poland and the Soviet Union restricted the share of allocations to industry. In fact, the share of industry in Polish investment rose very sharply from 1970 and up to 1976 (by 6 percentage points). After that allocations reverted to a pattern closer to 1970. The redressment effort in 1976–1980 was concentrated on agriculture and construction, where the share of allocations rose by a combined 2–5 percentage points. Agriculture's share continued to increase in 1979 and 1980. In the Soviet Union, the shift out of industry and agriculture was directed towards construction and, especially, towards transport and communications. In the other countries, structural shifts reflected above all a steady and sometimes substantial decline in agriculture's share (Bulgaria, Hungary), taken up mainly by the industry sector or, in the case of Czechoslovakia, by construction. Shifts in other sectors between the two periods rarely rose above 1 percentage point. In general, movements in 1979 and 1980, where noticeable, continued in similar directions, though there was a sharp increase following the previous flat or declining tendency in the share of allocations to transport and communications in Hungary, Poland and Romania.

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[308] See note to table 3.4.7 above.

The main structural changes in investment allocations over the 1970s took place within industry. They were not only bigger but did not show any very significant reversal after the middle of the decade. Movement in the structural change index between 1970 and 1980 ranged from 12–16 points in Bulgaria, Czechoslovakia, Hungary, Poland and Romania; in the German Democratic Republic and the Soviet Union it was more modest (10.1 and 8.5 points respectively).

Comparing allocations in 1971–1975 and 1976–1980, changes of more than 1.5 percentage points were registered for 6 out of 10 industrial branches in Bulgaria, 7 out of 10 in Czechoslovakia, 8 out of 9 in Hungary, 5 out of 10 in Poland. But the spread of structural change was much lower in the German Democratic Republic (two out of eight branches), in Romania (three out of ten branches—though the share of engineering rose by as much as 6 percentage points, the biggest movement of any branch in any country) and in the Soviet Union (two out of ten branches).[309]

Between 1971–1975 and 1976–1980, the common feature of investment shifts in all countries of the region was the continuing reallocation of funds towards the engineering industry. The high, 6 percentage points shift in Romania is followed by a 3–4 points shift in Bulgaria and Czechoslovakia and around 2 points in Hungary and the Soviet Union. The pattern was different in the German Democratic Republic, where the main recipient branch was metallurgy, followed by engineering. Even so, by 1980, the share of the engineering industry stood above its average 1971–1975 level in all countries. The main "loser" branch was the chemical industry, the share of which increased only in Poland and the Soviet Union (by about 1 percentage point in both cases). In the other countries its loss of share ranged between 0.5 per cent in Romania to 1–4 points in Bulgaria, Czechoslovakia, the German Democratic Republic and Hungary. The decline in its share gained extra momentum in some countries in 1979–1980, and the share began to diminish, moreover, even in the two countries where it had been maintained during 1976–1980 as a whole.

Contrasting developments in these two sectors can probably be attributed in part to foreign trade developments since 1975–1977. As is now already clear from the trade returns, the growth of the region's imports of investment goods in real terms has been sluggish, the slow increase in value having been very largely or even completely wiped out by rising prices. Since 1978, the volume of investment goods imported from outside the region for the chemical industry declined even in value terms (by about 20 per cent in the year 1979 alone).[310] In the case of investment goods for the engineering industry, the region's imports from outside the region also declined but by much less (by 7 per cent in 1979). In fact, chemical industry investment goods accounted in 1978 for perhaps 35 per cent and investment goods for engineering for about 23 per cent of the region's total identified imports of investment goods from outside the region. This compared with a less than 4 per cent share of chemical industry equipment in total investment goods imports from other countries of the region and a rather higher share for engineering (10 per cent).[311]

The relative buoyancy of intra-regional trade in machinery and equipment as compared with the region's imports of these goods from other countries suggests that supplies from within the area may have partially replaced goods imported from the rest of the world. But the technology content of chemical imports from outside the area is highly specific, and not readily substitutable by equipment produced within the region. This is less true for many investment goods for the engineering industry. This may at least partly explain the drop in the chemical industry's share in total industrial investment—which, as noted earlier, does not square with planned production priorities. However, the lack of complete data on the region's investment goods imports on an industrial end-use branch basis in the years 1979–1980 prevents comprehensive analysis of trends in those years.

A further marked change in investment allocation patterns common to all the countries of the region is the shift during the course of 1976–1980 towards investment in the fuel and, to a lesser extent, the energy producing branches. Between the first and second halves of the 1970s, the share of investment in the fuel industry rose by 1.4–2.5 percentage points in Bulgaria, Czechoslovakia, Hungary and the Soviet Union, though marginal declines were reported in Poland and Romania (and a bigger, 2.5 per cent, decline for the combined fuel and energy branches of the German Democratic Republic). Much of the movement was concentrated in 1979–1980, particularly in the German Democratic Republic, Poland and Romania where the fuel branch's share had remained stable or fallen in 1976–1978. By 1980, the share of allocations to the fuel industry was up by 0.8 percentage points over the 1971–1975 average in Bulgaria (this was, uniquely for the region, a lower figure than for 1976–1980 as a whole indicating falls in the branch's share towards the end of the period), by 1.5 points in Czechoslovakia, 2.9 points in Hungary, 5.9 points in Poland, 0.3 points in Romania and 2.4 points in the Soviet Union. In the German Democratic Republic a −2.5 point decline in 1976–1980 was registered compared with the 1971–1975 average for energy and fuels combined, but this difference was only −0.2 percentage points by 1980 indicating rising shares towards the end of the second half of the decade. A similar strongly rising tendency can also be observed between 1971–1975 and 1976–1980 for the energy sector in a number of countries—notably Czechoslovakia, Hungary and Poland, whilst in the other countries of the region, though the energy branch has not yet attained the shares registered in the first half of the 1970s, the trend is also strongly upward since 1978. It might be observed that both these branches rely for imported equipment principally on suppliers within the region, where technology levels, particularly for the electricity generating and supply branch, are comparable with the most advanced world standards.

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[309] The low ranking of Romania in comparison with its high ranking according to the structural change index reflects the degree to which structural change was concentrated on the engineering branch.

[310] In 1978 the share of identified investment goods imported from outside the region was estimated by the secretariat at more than 40 per cent of the total current US dollar value imported from all countries. The estimates suggest that the value of imported investment goods for the mining and fuel extraction, the chemical and the engineering industries purchased from outside the region was higher than the value of purchases from countries within the region (0.49 against 0.46, 2.5 against 0.7 and 1.6 against 1.4 billion US dollars respectively).

[311] 1978 figures.

The chemical industry apart, other main branches experiencing a fall in the share of total industrial investment allocations during the 1970s varied between individual countries, but were concentrated on the whole in the consumer goods division—textiles, other light industry and the food industry. The first two together registered combined losses in shares ranging from about 0.5 percentage points in Romania and the Soviet Union, through 1 percentage point in Czechoslovakia and the German Democratic Republic and up to 3–5 points in Bulgaria, Hungary and Poland—the trend having intensified since 1978. The food industry suffered a loss in share between 1971–1975 and 1976–1980 in all countries but Bulgaria, the German Democratic Republic, and Hungary, where there was a 3 percentage points increase. The generally falling trend in the other countries took place mainly after 1978.

### (v) Investment, output and productivity 1976–1980

Investment, as the channel along which are directed increments in fixed assets and new technology, is the key determinant of long-term changes in labour and overall productivity levels. Levels of labour productivity are affected by investment flows in several ways: first, by changes in the share of new investment allocated to above-average and below-average productivity sectors and branches, and second, over time, by the share of investments allocated to faster and slower productivity growth sectors and branches. Third, the impact of investment will depend upon the facility with which it is absorbed by recipient sectors and branches, as illustrated by the cost, in terms of investment, of changes in labour productivity. The object of the present section is, in the first instance, to chart the structural changes described above in relation to movements in ICORs, and also to relate them to overall capital and labour productivity trends.

In the first place, investments within the material sphere largely moved in favour of industry, a high labour productivity sector, during the second half of the 1970s. The only exceptions were Poland and the Soviet Union, where agriculture and transport and communications, respectively, were the principal beneficiaries.

Within industry the position is different. In all countries, the *branches with above average labour productivity levels* are energy, metallurgy, chemicals and food. To this list can be added fuel (Czechoslovakia, Romania and the Soviet Union) and engineering (Bulgaria). Investment shifts towards metallurgy took place in five countries (excluding Bulgaria and the Soviet Union) between 1971–1975 and 1976–1980. Of the other branches, allocations to chemicals rose only in three countries (Bulgaria, German Democratic Republic and Hungary) and to energy in three countries (Czechoslovakia, Hungary and Poland). There were also shifts to fuel in Czechoslovakia and the Soviet Union, and to engineering in Bulgaria. It is thus far from clear to what extent industrial labour productivity has benefited due to investment shifts from branches with low labour productivity levels to branches where they are high; the net shift to the branches listed above was either negative, as in Bulgaria, Czechoslovakia and Romania (−0.3 to −1.9 percentage points) or positive but small, as in the German Democratic Republic, Poland and the Soviet Union (+0.2 to +1.6); it was, however, bigger in Bulgaria (3 percentage points).[312]

Positive effects were however achieved, from structural shifts due to shifts towards *sectors and branches where labour productivity was increasing at above-average rates.* As shown in table 3.4.8, between 1971–1975 and 1976–1980 this took place in 7 out of the 34 sector observations shown for the material sphere of the seven countries in the region. In addition, in ten cases there were shifts out of below-average labour productivity growth sectors. In industry, this was the case for 12 and 21 out of 72 observations respectively. There was considerable variation between countries. In Poland, the shifts in investment in the material sphere were almost totally at variance with labour productivity trends—i.e. all shifts consisted of movements out of above-average labour productivity growth sectors and into below-average productivity growth sectors, and apart from small shifts out of agriculture in Romania and the Soviet Union, the same was true of these two countries. But there were more positive shifts (in three sectors) in Bulgaria, Cezchoslovakia and the German Democratic Republic. In Hungary all the resource shift was towards above-average labour productivity growth sectors and away from those where labour productivity growth was below-average. Within industry, individual country performance is even more markedly different. Structural shifts in investment were positive, in the sense defined above, in nine out of ten of the inter-branch shifts recorded in the Soviet Union, six out of ten in Poland, five out of ten in Bulgaria, and five out of nine in Hungary—but in only three out of nine in the German Democratic Republic, four out of ten in Czechoslovakia and two out of ten in Romania.

These bird's eye view comments do not, of course, take account of the weighting of different sectors or branches in total output, nor of the size of the shift, nor of the differences between the rates of growth of labour productivity and hence do not explain overall growth outcomes. In fact, in most countries there has been a fairly widespread shift to the above-average labour productivity growth rate industrial sector and away from agriculture, and, within industry, towards engineering and energy and away from the often below-average labour productivity growth branches such as textiles, and the light and food branches. Conversely, the main shifts toward slow growing labour productivity branches within industry involve fuel (all countries but Poland and the German Democratic Republic) and metallurgy (all countries but the Soviet Union where there was a shift away from this branch). The net effects of investment shifts on overall labour productivity growth, therefore, has probably been positive in most countries of the region—except in the material sphere for Bulgaria and Poland, and within industry in Romania. However, there was a very marked shift away from the high labour productivity growth chemical industry in all countries but Poland and the Soviet Union.

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[312] The above comment appears to imply that labour productivity changes are independent of investment. While this is clearly not the case, investment is not the only determinant—as witness the differential rates of growth of labour productivity with regard to fixed asset increases due to other "absorption" factors.

Leaving aside for the moment the question of the "absorptive capacity" of sectors/branches for investment, these observations can usefully be compared with the figures shown in table 3.4.9 which summarize, *inter alia*, the effects of *changes in fixed asset (and employment) structures* on the growth of NMP and gross industrial output. In order to separate out the effects of structural changes in inputs, growth performance in the material sphere and in industry respectively have been related to changes in the distribution of fixed assets and employment between sectors and branches. In order to separate out the effects of both productivity and structural change, actual growth outcomes have been compared with what they might have been if, in the first place, sector branch productivity remained at 1970 levels while structures were held constant and *vice versa*. It is thus possible to show successively the

TABLE 3.4.8

**Structural shifts in investment allocations in relation to ICORs, capital and labour productivity**

*(Coefficients (ICORs), average annual percentage change (productivity) and percentage points (structural change))*[a]

A. Material sphere

| | *Industry* | *Construction* | *Agriculture* | *Transport and communications* | *Trade* | *Total material sphere* |
|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | |
| ICORs . . . . . . . . | 3.1 | 2.4 | −38.8 | 6.4 | 1.0 | 3.8 |
| Capital productivity . . | 0.3 | −5.9 | −6.4 | −1.6 | −0.8 | −1.5 |
| Labour productivity . . | 6.8 | 5.4 | 3.1 | 5.9 | 9.6 | 7.1 |
| Structural shift . . . . | 1.1 | −0.8 | −2.3 | 1.2 | 0.5 | – |
| *Czechoslovakia* | | | | | | |
| ICORs . . . . . . . . | 4.4 | 4.5 | 219.9 | 7.6 | 1.4 | 4.8 |
| Capital productivity . . | −1.1 | −4.9 | −6.0 | 1.3 | −0.7 | −1.5 |
| Labour productivity . . | 4.4 | 1.7 | 2.1 | 5.2 | 4.7 | 4.2 |
| Structural shift . . . . | 0.3 | 1.7 | −0.7 | −0.3 | −1.0 | – |
| *German Democratic Republic* | | | | | | |
| ICORs . . . . . . . . | 4.7 | 3.3 | 170.1 | 12.2 | 1.8 | 5.2 |
| Capital productivity . . | −0.7 | −3.5 | −4.5 | −0.7 | −0.8 | −1.1 |
| Labour productivity . . | 5.0 | 3.0 | 1.3 | 3.2 | 4.6 | 4.3 |
| Structural shift . . . . | 1.0 | 0.6 | −1.8 | −0.1 | −2.5 | – |
| *Hungary* | | | | | | |
| ICORs . . . . . . . . | 5.4 | 1.8 | 43.9 | 17.2 | 2.3 | 6.7 |
| Capital productivity . . | −1.6 | −5.6 | −5.3 | 0.1 | −4.3 | −1.7 |
| Labour productivity . . | 6.4 | 5.0 | 3.2 | 2.7 | 3.7 | 5.0 |
| Structural shift . . . . | 3.1 | 0.5 | −3.1 | −0.7 | 0.1 | – |
| *Poland* | | | | | | |
| ICORs . . . . . . . . | 3.8 | 6.4 | −28.4 | 5.7 | 1.0 | 5.5 |
| Capital productivity . . | −2.6 | −11.5 | −7.4 | 0.1 | – | −3.4 |
| Labour productivity . . | 6.0 | 1.3 | 0.5 | 5.6 | 4.5 | 4.9 |
| Structural shift . . . . | −1.4 | 0.8 | 1.7 | −1.6 | −0.6 | – |
| *Romania* | | | | | | |
| ICORs . . . . . . . . | 3.3 | 3.0 | 9.2 | 9.5 | 0.9 | 3.6 |
| Capital productivity . . | −1.3 | −6.9 | −4.3 | −2.1 | 0.3 | −1.9 |
| Labour productivity . . | 5.7 | 6.4 | 0.5 | 3.5 | 11.0 | 9.0 |
| Structural shift . . . . | 0.1 | 2.2 | 1.7 | 0.6 | −1.3 | – |
| *Soviet Union* | | | [b] | | | |
| ICORs . . . . . . . . | 2.8 | 3.1 | 9.3 | 11.0 | . . | 4.3 |
| Capital productivity . . | −1.4 | −5.0 | −5.1 | −1.8 | . . | −2.7 |
| Labour productivity . . | 4.6 | 2.4 | 2.9 | 2.8 | . . | 3.9 |
| Structural shift . . . . | −0.8 | 0.2 | −0.5 | 1.2 | . . | – |

TABLE 3.4.8 (*continued*)

B. Industry

| | *Energy* | *Fuel* | *Metal-lurgy* | *Engin-eering* | *Chemi-cals* | *Construc-tion materials* | *Wood, paper* | *Textiles* | *Other light industry* | *Food* | *Total industry* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | | | | | | |
| ICORs | 8.1 | 6.6 | 1.6 | 0.7 | 1.4 | 2.3 | 1.6 | 0.7 | 0.7 | 0.9 | 1.3 |
| Capital productivity | −2.4 | −0.7 | 4.9 | 2.4 | 1.8 | −2.4 | −3.5 | −1.7 | −4.9 | −4.3 | −0.7 |
| Labour productivity | 2.2 | 5.0 | 6.6 | 9.0 | 8.9 | 6.9 | 6.1 | 5.6 | 4.4 | 3.9 | 5.8 |
| Structural shift | −1.0 | 2.2 | −1.1 | 3.4 | −3.5 | 1.5 | −1.2 | −1.0 | −1.8 | 0.3 | – |
| *Czechoslovakia* | | | | | | | | | | | |
| ICORs | 7.5 | 4.3 | 1.8 | 0.8 | 1.0 | 1.9 | 1.5 | 1.5 | 1.0 | 1.2 | 1.5 |
| Capital productivity | −2.5 | −2.8 | 0.4 | 1.3 | 1.1 | −2.0 | −2.4 | −1.4 | −1.7 | −2.4 | −0.5 |
| Labour productivity | 2.0 | 2.4 | 3.6 | 6.6 | 6.6 | 5.0 | 5.4 | 4.6 | 5.1 | 3.3 | 4.8 |
| Structural shift | 2.1 | 1.4 | 2.4 | 3.7 | −3.6 | −1.9 | 0.4 | −0.8 | −0.2 | 0.2 | – |
| *German Democratic Republic*[d] | | | | | [c] | | | | [e] | | |
| ICORs | 7.2 | | 3.0 | 1.0 | 2.1 | 3.4 | . . | 1.2 | 1.4 | 1.2 | 1.9 |
| Capital productivity | . . | | . . | . . | . . | . . | . . | . . | . . | . . | . . |
| Labour productivity | 3.6 | | 4.7 | 6.0 | 6.7 | 4.9 | . . | 6.3 | 5.3 | 1.7 | 5.2 |
| Structural shift | −2.5 | | 3.7 | 0.5 | −1.3 | −0.5 | . . | −0.8 | −0.4 | 0.5 | – |
| *Hungary* | | | | | [c] | [f] | | | [e] | | |
| ICORs | 5.9 | 12.0 | 2.9 | 1.0 | 1.0 | 3.5 | . . | 2.6 | 1.1 | 1.9 | 1.8 |
| Capital productivity | −1.2 | −3.3 | −1.6 | −1.6 | −1.6 | −3.3 | . . | −3.4 | −3.8 | −4.6 | −2.5 |
| Labour productivity | 6.8 | 4.2 | 4.0 | 6.2 | 8.6 | 5.9 | . . | 4.7 | 4.8 | 2.3 | 5.4 |
| Structural shift | 2.3 | 1.7 | 1.2 | 1.9 | −3.8 | −2.3 | . . | −1.6 | −2.6 | 3.3 | – |
| *Poland* | | | | | | | | | | | |
| ICORs | 6.1 | 3.0 | 2.4 | 0.7 | 1.4 | 2.6 | 1.3 | 0.6 | 0.5 | 0.8 | 1.2 |
| Capital productivity | −0.9 | −3.1 | −5.5 | −2.8 | −0.8 | −3.2 | −3.0 | −3.4 | −2.1 | −4.3 | −2.7 |
| Labour productivity | 5.8 | 3.4 | 6.1 | 8.0 | 7.1 | 6.5 | 7.1 | 6.3 | 6.2 | 4.4 | 6.1 |
| Structural shift | 1.3 | −0.4 | 1.7 | 2.4 | 1.4 | −2.5 | 0.8 | −2.5 | −0.5 | −2.4 | – |
| *Romania* | | | | | | | | | | | |
| ICORs | 10.5 | 5.4 | 1.4 | 0.6 | 1.5 | 1.1 | 1.0 | 0.4 | 0.3 | 0.6 | 1.0 |
| Capital productivity | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . |
| Labour productivity | 5.2 | 2.9 | 5.7 | 7.0 | 7.3 | 10.2 | 6.4 | 6.5 | 6.3 | 4.7 | 6.3 |
| Structural shift | −0.2 | 1.6 | 5.8 | −0.5 | −1.1 | −1.6 | −0.3 | −0.2 | −1.1 | −0.4 | – |
| *Soviet Union* | | | | | | | | | [g] | | |
| ICORs | 3.8 | 6.2 | 2.8 | 0.6 | 1.3 | 1.9 | 2.2 | 0.7 | 0.3 | 0.8 | 1.2 |
| Capital productivity | −0.5 | −3.2 | −3.1 | −0.1 | −1.0 | −3.2 | −3.5 | −3.0 | −2.3 | −3.0 | −2.0 |
| Labour productivity | 3.3 | 3.5 | 2.9 | 7.1 | 5.4 | 2.5 | 3.2 | 2.7 | 3.0 | 1.7 | 4.0 |
| Structural shift | −1.3 | 2.3 | −0.7 | 2.2 | 0.8 | −0.7 | −0.5 | −0.1 | −0.3 | −0.8 | – |

*Sources:* As for table 3.4.1.

*Note:* Unless otherwise indicated below, other light industry includes clothing, footwear, leather, glass and ceramics, and printing.

[a] ICORS (coefficients) are derived from average investment ratios in 1976–1980 divided by the percentage growth of average NMP in 1976–1980 over the average for 1971–1975, annualized over five years. *Capital and labour productivity* (average annual percentage changes) are expressed as geometrical averages of growth over 1976–1980 based on 1975. *Structural shifts* (percentage points) relate to changes between the annual averages of 1976–1980 compared with those in 1971–1975.

[b] Includes trade and procurement etc., and other unspecified activities.

[c] Includes oil refining.

[d] Includes fuel.

[e] Includes wood and paper.

[f] Includes glass.

[g] Clothing, leather, furs and footwear only.

contribution of changes in the level, productivity and sector/branch structure of each of the two factors of production (fixed assets and employment) to total growth.[313]

The table clearly shows up two developments during the past decade. In the first place, it broadly confirms that *structural changes in the investment sector, as they have impinged upon fixed assets*, have had a noticeable and positive effect on growth. For the material sphere as a whole, changes in fixed asset structures have contributed between 8 and 28 per cent of the total NMP increment 1970–1980.[314] In industry, the figure has been somewhat lower—a

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[313] It should be noted that in this part of the analysis the effects of shifts between sectors/branches with different *levels* of labour productivity have been included for convenience with the effects over time due to shifts between sectors/branches with different rates of *productivity growth*.

[314] The tabulation does not show, for space reasons, movements between 1970 and 1980 but movements between the benchmark years 1970 and 1975 and 1975 and 1980.

TABLE 3.4.9

**Contribution of changes in the post-1970 levels, productivity and sector branch allocation of fixed assets and employment to NMP and industrial output changes 1970–1975 and 1975–1980**

*(Percentages of actual output growth)*

| | *Bulgaria* | | *Czechoslovakia* | | *German Dem. Rep.* | | *Hungary* | | *Poland* | | *Romania* | | *Soviet Union* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *1975/1970* | *1980/1975* | *1975/1970* | *1980/1975* | *1975/1970* | *1980/1975* | *1975/1970* | *1980/1975* | *1975/1970* | *1980/1975* | *1975/1970* | *1980/1975* | *1975/1970* | *1980/1975* |
| MATERIAL SPHERE (NMP) | | | | | | | | | | | | | | |
| *Fixed assets:* | | | | | | | | | | | | | | |
| Output growth due to changes in: | | | | | | | | | | | | | | |
| Levels . . . . . . . . | 116.1 | 143.2 | 101.6 | 180.1 | 111.6 | 147.0 | 109.4 | 242.2 | 85.9 | −718.5 | 105.6 | 155.0 | 163.2 | 213.9 |
| Productivity . . . . . | −39.2 | −56.3 | −14.3 | −97.4 | −19.3 | −58.0 | −24.7 | −143.4 | 0.7 | 721.2 | −9.2 | −63.5 | −68.7 | −125.6 |
| Sectoral allocation. . . | 23.1 | 13.1 | 12.7 | 17.3 | 7.7 | 11.2 | 15.3 | 1.2 | 13.4 | −42.7 | 3.6 | 8.5 | 5.5 | 11.7 |
| *Employment* | | | | | | | | | | | | | | |
| Output growth due to changes in: | | | | | | | | | | [a] | | | | |
| Levels . . . . . . . . | 2.2 | 0.3 | 4.9 | 7.6 | 1.0 | 7.6 | −2.1 | −15.2 | 14.8 | 24.8 | 1.8 | 1.7 | 21.6 | 17.9 |
| Productivity . . . . . | 84.8 | 93.2 | 88.6 | 88.0 | 98.9 | 92.1 | 98.5 | 115.3 | 76.9 | −106.2 | 72.6 | 79.3 | 77.6 | 80.1 |
| Sectoral allocation. . . | 13.1 | 6.5 | 6.5 | 4.4 | 0.1 | 0.3 | 3.6 | −0.1 | 8.3 | −18.6 | 25.6 | 19.0 | 0.8 | 2.0 |
| INDUSTRY (GROSS OUTPUT) | | | | | | | | | | | | | | |
| *Fixed assets* | | | | | | | | | | | | | | |
| Output growth due to changes in: | | | | | | | | | | | | | | |
| Levels . . . . . . . . | 100.6 | 133.0 | 82.4 | 130.6 | 102.7 | 103.0 | 131.9 | 262.1 | 93.2 | 255.1 | .. | .. | 118.6 | 185.8 |
| Productivity . . . . . | −5.9 | −45.9 | 12.5 | −31.5 | −6.7 | −4.1 | −34.4 | −175.0 | −3.1 | −169.5 | .. | .. | −20.1 | −79.1 |
| Branch allocation . . . | 5.3 | 12.9 | 5.1 | 0.9 | 4.0 | 1.1 | 2.5 | 12.9 | 9.9 | 14.4 | .. | .. | 1.5 | −6.7 |
| *Employment* | | | | | | | | | | | | | | |
| Output growth due to changes in: | | | | | | | | | | | | | | |
| Levels . . . . . . . . | 22.1 | 11.0 | 7.6 | 9.4 | 3.7 | 7.0 | 3.4 | −21.3 | 26.5 | 2.9 | .. | .. | −18.1 | 25.7 |
| Productivity . . . . . | 80.0 | 90.0 | 91.4 | 90.3 | 96.1 | 89.3 | 91.5 | 116.9 | 74.7 | 97.0 | .. | .. | 86.0 | 76.2 |
| Branch allocation . . . | −2.1 | −1.0 | 1.0 | 0.3 | 0.2 | 3.7 | 5.1 | 4.4 | −1.2 | 0.1 | .. | .. | −4.1 | −1.9 |

*Sources:* As for table 3.4.1.

*Note:* These figures quantify, in percentages of actual growth, the three identified growth components shown which therefore sum to 100 per cent. They differ somewhat from those shown in text tables in section 3.3(i) above (text table on page 218) since they are based on national (rather than CMEA) statistics and hence include activities outside the socialist sector.

[a] Because of the decline in the absolute level of production in the year 1980 as compared with 1975, the figures for Poland appear with their signs reversed; they should be interpreted as if signs were opposite to those shown. Magnitudes can be very large because of the relatively small drop in output between the two years.

[b] 1976/1975.

positive contribution of between 3 and 11 per cent of the total rise in gross industrial output in eastern Europe, while—exceptionally—structural shifts were responsible for a 2.3 per cent negative contribution in the Soviet Union. Secondly, the table shows that these positive structural change effects have increased in strength for some countries but fallen in others and probably for the region as a whole—from a range of 4–23 per cent of total NMP growth outcomes in 1970–1975 to 1–17 per cent in 1975–1980; in the case of industrial growth the corresponding regional trends are slightly less clear, positive contributions having varied between 1.5–9.9 per cent in the earlier period to −6.7 to 14.4 per cent between 1975 and 1980. Positive structural change contributions to NMP strengthened between the two periods for Czechoslovakia, the German Democratic Republic and the Soviet Union, and within industry for Bulgaria, Hungary and Poland, since the middle of the 1970s. In the future, improvements in the structure of the economy may involve moves back into sectors or branches where productivity growth has been, up to now, slower than average—notably fuels.

At this point it is illuminating to examine the "absorptive capacity" question, and notably its development on a sector/branch basis, as illustrated by a comparison of *labour productivity growth indices with the increase in fixed assets* with which it was associated and on which its development largely depends (table 3.4.6). The table shows, in the lower panel, that the increment in labour productivity associated with a given increment in fixed assets was, depending on the countries, between 12 and 33 per cent lower in 1980 than in 1970 in the material sphere as a whole, and between 8 and 32 per cent lower for gross industrial output.

The magnitude of changes shown by these, and other figures is not only large, but also varies widely between individual sectors and other branches. It is also quite clear that there are substantial differences between the performance of individual countries. Even so, in all countries (table 3.4.9), the effect of *changes in the level of fixed assets* would have been responsible—assuming no change in their 1970 capital productivity performance—for very much more than the increments in growth actually achieved. This potential effect has, however, been eroded on a very large scale by the declines in capital productivity which actually took place since 1970. The results can be illustrated very graphically by referring again to table 3.4.6. Labour productivity gains in the material sphere in terms of fixed assets cost least in the German Democratic Republic in

1970–1980, closely followed by Czechoslovakia, Bulgaria and Hungary. They were most costly in Poland and the Soviet Union. Whereas in the first four countries gains from an incremental unit of fixed assets fell by 12–14 per cent since 1970, in Poland, Romania and the Soviet Union they fell by 20–35 per cent. In most cases productivity growth in industry was less costly than average in terms of fixed assets—or only slightly more so—than the average for the material sphere between 1971–1975 and 1976–1980 (though this was not true if 1980 is compared with 1970 due to slow growth or absolute declines in industrial production in the latter year in some countries). Conversely, productivity gains in construction and agriculture were everywhere—with the exception of Romanian agriculture—very much more costly than average.

Within the industrial sectors, the chemical industry showed better than average performance in all countries but Bulgaria, while for construction materials the converse was the case in all countries but the German Democratic Republic (up to 1976). Engineering performance was also relatively good, recording generally better than average performance—notably in Czechoslovakia (where productivity gains actually became cheaper in terms of fixed assets over the period). Textiles, other light industry and the food industry taken together also in general performed worse than the average of all branches—though in the German Democratic Republic and Hungary textiles performed better than average. The energy industry performed worse than average in all countries but Hungary and the Soviet Union. A similar mixed pattern is revealed for fuel; it performed well only in Bulgaria and Hungary (where it accounts for only about 4 per cent of total industrial production).

Viewed globally, these results can be broadly confirmed by reference to table 3.4.9. This shows that very big disproportions between the *role of labour and capital productivity in growth* are present in all countries of the area. In order to achieve the labour productivity contributions shown, the rise in fixed assets—as already implied in the previous paragraphs—has in all cases been extremely large. Although the effect over the whole decade is not shown in the table, the effects have been big enough, in fact—on the assumption of 1970 capital productivity levels as described earlier—to account for between 129 and 188 per cent, depending on the country, of production growth in the material sphere over and above the level actually achieved—and similarly, a corresponding 105 to 185 per cent of industrial growth.[315] Although the productivity effect has been boosted by the favourable effects of structural changes in fixed asset allocations in almost all countries, the decline in capital productivity has, therefore, wiped out between one third and three quarters of potential gains in the material sphere as a whole, and 20–40 per cent in industry (except in Czechoslovakia, where in industry the figure was as low as 8 per cent over the decade). Moreover, the position worsened in the second half of the decade, at the same time as the positive contribution made by structural change in fixed assets in some countries weakened. The causes of these phenomena lie outside the investment sector. But their effects on production far outweigh those of a declining labour force. With the available supply of labour, the immediate task is clearly to arrest the declining trend of overall capital productivity which would, in itself, provide a very substantial boost to the growth of the productivity of labour.

Several countries have drawn attention to the need to *modernize the stock of fixed assets* by writing off obsolescent plant and equipment. No systematic data are available on write-off rates for the countries of the region, but a comparison between increases in gross fixed capital formation and changes in the level of fixed assets yields results which serve to indicate, albeit approximately, recent trends in this respect. Arithmetical averages of the results suggest that write-off rates rose somewhat between 1970 and 1975, but declined fairly steeply in 1976–1980 in most countries for both the material sphere and in industry (as also in the non-material sphere between 1975 and 1980). The exceptions are Czechoslovakia and Hungary (but not in industry). The implied depreciation rates moved downwards rather sharply in 1979 and 1980. The decline tended in all countries to be steepest in agriculture and construction, while within industry it was widespread among sectors. Prolongation of the life of fixed assets may well be inevitable in the medium term given the reduction in investment growth planned in most countries. But it may be a considerable hindrance in achieving the required gains in labour productivity, and in arresting or reversing the downward trend in capital productivity.

### (vi) Plans and prospects 1981–1985

NMP growth rate targets for 1981–1985 have been set somewhat below growth outcomes during 1976–1980 in all countries of the region but the German Democratic Republic, where NMP is scheduled to grow at rates a full point above recent trends. Investment targets in all countries have, in contrast, been set at much lower levels than were achieved in 1976–1980; little if any growth is foreseen above the 1980 levels in Czechoslovakia and the German Democratic Republic and only in Romania (an average annual growth rate of 4.4 per cent) and in the Soviet Union (1.6 per cent) do the plan targets exceed 1 per cent annually.

The plan for the current period thus represents a major development of the strategy first manifested in the plans for 1976–1980—when only two countries opted for the hitherto traditional strategy of investment-led growth (Czechoslovakia and Romania). Virtually all countries are thus now emphasizing greater efficiency of the investment process itself—and again stress the importance of concentrating investment on priority projects, shortening construction times and improving the performance in working up plant to full productive efficiency with a minimum delay. While no large scale administrative or organizational changes are foreseen—or at least mentioned in the five-year

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[315] Excluding the German Democratic Republic (since 1976) and Romania which do not publish a breakdown of fixed assets by industrial branch.

### Five-year plans for investment, 1981—1985

| | *Investment (Annual percentage change)* | | *Investment ratios (Per cent)* | | *ICORs (Coefficient)* | |
|---|---|---|---|---|---|---|
| | *1976–1980* | *1981–1985* | *1976–1980* | *1981–1985* | *1976–1980* | *1981–1985* |
| Bulgaria | 4.1 | 0.9 | 36.6 | 32.3 | 5.9 | 8.7 |
| Czechoslovakia | 4.1 | −1.7 | 33.7 | 29.4 | 8.6 | 12.8 |
| German Democratic Republic | 5.3 | −0.3 | 31.0 | 25.4 | 7.6 | 5.0 |
| Hungary | 4.4 | 0.5 | 37.4 | 33.5 | 9.0 | 11.5 |
| Poland | −0.4 | . . | 35.9 | . . | 18.7 | . . |
| Romania | 9.8 | 4.4 | 40.5 | 38.4 | 4.8 | 5.4 |
| Soviet Union | 3.9 | 1.6 | 29.4 | 27.5 | 6.2 | 8.6 |

plans—to improve the construction sector's performance in this respct, the innovations introduced during the previous quinquennium, together with the increasing importance of net output indicators in the economy as a whole, will work to the same end. None the less, the most significant contribution to the process in the view of the planning authorities of the region is likely to be the very much more limited availability of investment funds over the current five-year period, which, they consider, will not only place a premium on the speedy realization of investment projects, but will also provide an added incentive for more efficient use of available fixed assets.

In *Bulgaria*, an average rate of investment growth of 0.9 per cent annually from the year 1980 is implied up to the end of the five-year plan. This compares with an average annual rate of 4.2 per cent in 1976–1980 after adjustment for price increases in 1980. Official statements indicate total expenditures over the five-year period to be equal to an annual rate of 2.7 per cent, in volume terms, over the levels achieved in 1976–1980. Together with NMP growth targets, this will result in a progressive fall in the investment ratio, but a rise in ICORs from an average of 5.9 in the previous quinquennium to 8.7 in 1981–1985—moderating to 8.2 by the last year of the plan period.

No investment figure has been released for the year 1981, nor has any NMP growth figure in volume terms.[316] Taking a published figure of 5.9 billion leva for fixed assets brought into operation in 1981, it seems likely that there was some decline in investment in that year. If NMP growth at a trend figure of about 4–5 per cent is assumed, a large fall in the investment ratio would appear to have taken place, together with a marginal rise in the ICOR. Plans for 1982 foresee an NMP growth target (3.6 per cent) in line with the five-year plan figures; and an estimated 5.6 per cent growth in investment expenditures (to 7.215 billion leva). If achieved, these targets would again push up the ICOR; in that case, investment would need to grow more slowly than the average annual rates implied by the five-year plan targets during 1983–1985 if the objective for the period as a whole were to be achieved.

In *Czechoslovakia*, the five-year plan targets for investment imply a decline in the average absolute level of investment over the period compared with 1980. During 1976–1980, capital expenditures also grew by an annual average of 4.1 per cent. With slower NMP growth, this implies a fall in the investment ratio (from 33.7 per cent in the previous plan period to 29.4 per cent in 1981–1985), and a rise in ICORs (from 6.9 to 12.8 between the same periods) which would decrease only slightly by 1985.[317] This is approaching double the average 1976–1980 outcome.

In 1981, the growth of NMP is estimated at below 1 per cent, and a decline in investment to 144.8 billion crowns was announced (−3.6 per cent). There has thus been a substantial fall already in the investment ratio, and a big rise in the ICOR. Plans for 1982 indicate a further decline (−3.3 per cent) in investment and little growth of NMP. This would be in line with the low investment growth targets, but would imply a considerable recovery in NMP growth during the remaining years up to 1985—to an annual average rate of 3–4 per cent—if the five-year plan NMP growth targets were to be fulfilled. If this were achieved, both investment ratios and ICORs could fall sharply towards the end of the period.

In the *German Democratic Republic*, the five-year plan targets for investment are set at an annual average level slightly less than in 1980. This compares with average annual growth rates of 5.3 per cent in 1976–1980. The NMP growth target is, however, set at about 5 per cent annually. Thus a very substantial fall in the investment ratio is foreseen throughout the plan period (to 25.4 per cent compared with 31.0 per cent in 1976–1980) and also, uniquely in the region, a sharp fall in the ICOR (from 7.6 to 5.8). Growth of investment is estimated at just under 2.0 per cent in 1981, which is slightly lower than the annual plan for the year, but higher than the provisions of the five-year plan might suggest.[318] Taken with a 5 per cent NMP growth rate, this performance could have brought about further falls in both the investment ratio and the ICOR. Plans for 1982 apparently anticipate only a slight upturn in investment and further buoyant growth of NMP (5.3 per cent). If 1982 targets are achieved the results of the first two years of the plan taken together would imply the possibility of further investment cuts and a reduction of the investment ratio and the ICOR to the levels implied by the plan.

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[316] An increase in NMP of 22 billion leva was announced, equal to a 7.3 per cent rise at current prices.

[317] Calculations are based on the mid-point of 2.0–2.6 NMP growth and crowns 135–150 billion investment target averages. If the upper limit of growth were obtained in both cases, the average ICOR in 1981–1985 would be 11.7.

[318] An investment figure of 57 billion marks was released for the year 1981. This figure does not appear to be consistent with the constant price series used in the annual statistical yearbook. It has thus been compared with a figure of 56 billion marks released in the plan fulfilment report for 1980, which yields a possible rise of 1.8 per cent.

The five-year plan figures for *Hungary* indicate a rise in investment expenditures at current prices to levels on average some 8.6 per cent above the outcome for 1976–1980. In view of the intention of the Hungarian authorities to align domestic prices with those on the world market, a price deflator of 4 per cent annually has been assumed[319] in order to derive estimates in volume terms. These estimates imply constant average annual growth of less than 1 per cent annually over the plan period from the year 1980, compared with an annual average of about 4.3 per cent in 1976–1980. This would bring about a fall in the investment ratio to an average of 33.5 per cent for 1981–1985 compared with a 37.4 average in the previous five-year period. But since the NMP growth target, at an average rate of 2.7 per cent annually, is rather low compared with the previous period, ICORs would rise from 9.0 to about 11.5. During the first year of the plan, investment expenditures fell by 9.0 per cent in volume terms. This substantial decline is in line with official statements on the plan which foresaw very much slower investment activity, and also overall growth performance, during the early years of the current quinquennium. The small rise in NMP in 1981 did not prevent a substantial 4 percentage point fall in the investment ratio, but did bring about a further rise in ICORs. Plans for 1982 imply, on the 4 per cent price rise assumption, a further 2.5 per cent decline in the absolute level of investment. If these plans are fulfilled, a very sharp rise in investment expenditures could be expected during 1983–1985 (of about 7 per cent annually) if the five-year targets were to be fulfilled.[320]

Though no five-year plan targets are available for *Poland*, the results for 1980, and the tentative data on plans for 1982, suggest that a similar policy as in other countries of the area is being applied, though on a considerably bigger scale. For the third year in succession, a decline in investment expenditures was reported—at 13 per cent, the biggest in any recent year. Investments in 1981 thus fell below the level achieved in 1972. The decline in NMP growth rates renders ICORs meaningless at the present stage, but the investment ratio, at 28.7 per cent is now lower than in any year of the 1970s. Official statements on 1982 foresee investment bottoming out at about 1981 levels.

In *Romania*, the five-year plan also calls for a much reduced rate of investment growth. At some 4.4 per cent annually it is still the highest of any other country of the region, but less than half the 9.8 per cent rate achieved on average during 1976–1980. The achievement of this target would bring about a big reduction in the investment ratio which, at 40.5 per cent, was the highest of the area in 1976–1980. The five-year plans imply a reduction to 38.4 per cent, and a substantial rise in the country's relatively low ICOR from 3.7 in 1976–1980 to 5.4 in 1981–1985—still, thanks to relatively high NMP growth rates, the lowest in the region except for the German Democratic Republic. Following a very sharp reversal of the long-term trend in the country, investment fell by 0.9 per cent in 1981. This compares with a target of 220 billion lei set for that year—a 4.5 per cent rise—and a target of 226.3 billion lei for 1982 has also been announced. However, taken together with the substantially slower-than-planned output growth for 1981 (just over 2.1 per cent compared with a target of 7.0 per cent), performance in 1981 suggests that both these plans may need revision—as also perhaps the five-year plan objectives.

The five-year plans for the *Soviet Union* aim at an average annual NMP growth rate of 3.4 per cent between 1980 and 1985—or a geometrical average, taking into account the growth targets for individual years, of some 3.2 per cent over the period. The individual year targets given in the five-year plan are all lower than both the target and outcome for 1981. Investment, on the basis of the five-year plan's individual year objectives, is set to grow at average geometrical compound average rates of 1.6 per cent annually—compared with 3.9 per cent during 1976–1980. This would bring about a fall in the investment ratio to 27.5 on average for the whole period, against 29.3 per cent in 1976–1980. On these assumptions, ICORs would rise to 8.6 over the period as a whole compared with 6.0 in 1976–1980—but would permit a descent to further levels by 1985. Results for the year 1981 in fact indicate investment growth for the year as provided in the five-year plan, and the annual plan for 1982, equally, indicates a fall of the same magnitude as provided for in the five-year plan. NMP growth is planned to accelerate in 1982, and its fulfilment would bring all investment and related indicators quoted above into line with the five-year plan targets.

For the region as a whole, little direct information was given for the *sectoral allocation of investment* in the five-year plan. Housing targets—which weigh heavily in non-material sphere investment—appear to be set at levels little higher than in 1976–1980 in most countries and there is likely to be some further shift in total allocations towards the material sphere. Output targets indicate that industry is to maintain its priority position in the area as a whole.

In the Soviet Union, agriculture will maintain its share in the total (27 per cent including agriculture-related industries). Within industry, fuel and energy are accorded varying but high degrees of output priority in the countries of the region, together with the engineering industry and, despite the fall in investment allocations in several countries in recent years, the chemical industry. In general—and with the exception of the higher priority accorded to the fuel and energy sectors, sectoral and branch investment allocations cannot be expected to vary greatly from their pattern in recent years.

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[319] Since the difference between Hungarian and domestic investment goods prices and those on the world market are still substantial this is probably an underestimate.

[320] This suggests that the price rise assumed for investment over 1981–1985 in table 3.4.1 and referred to above should probably be much greater—perhaps 7–8 per cent annually.

The provisions of the five-year plan accord fully with the central line of economic policy at the present time—that is, the reorientation of the whole economy to growth based on increased productivity of all factors of production, more economical use of current inputs, and a transition to the intensive path of economic growth. In the medium term, this will not result in any fall in the investment costs of increased output as expressed by ICORs—as is fully apparent from the relationships laid down in the plan between NMP and investment targets. Only in the German Democratic Republic, the most highly industrialized country of the region, and the country where falls in capital productivity have been lowest, are ICORs expected to drop during 1981–1985. Indeed the rises in ICORs implied for the other countries of the region are, if anything, somewhat bigger than those which actually took place between 1976–1980 and 1971–1975.

The emphasis laid on intensification in the plans of all countries is thus a step taken to reverse a situation with regard to investment and fixed asset productivity which has steadily deteriorated over the last decade. Whereas in 1971–1975, capital productivity changes inhibited growth in countries other than Poland by amounts equivalent to between 14 and 69 per cent of actual growth, during 1976–1980 these effects rose sharply in all countries to levels equivalent to between 56 and 143 per cent of actual growth since 1975. The effects in the final years of the last decade were even bigger in absolute terms as well as in relation to actual growth. This means that to an increasing extent over the last decade labour productivity growth has been increasingly reliant on large scale quantitative increases in the level of fixed assets to produce a given increment in its level—the reverse of the planned move towards a more intensive growth path.

What is clear from the scale of the vast increase in the quantity of fixed assets needed to increase labour productivity and hence growth is that the short-term contribution of changes in the efficiency of the investment sector itself can only be relatively minor. Annual investment typically is equal, in the first place, to the value of some 10 per cent of fixed assets per year in industry and the material sphere. While the role of investment in the long term as the channel for new technology and products is clear, it is equally certain that improvement in the efficiency of the investment process alone can do little to solve the real problem of economic management during the present plan period—that is, to ensure that all plant, whether new or existing, is used to its maximum capacity. The fact that the economic indicators in this respect have worsened to the extent they have in recent years seems to point to organizational shortcomings at various levels which have exacerbated the relatively recent energy, fuel and raw material supply problems.

The deceleration in investment growth which has now been incorporated into the five-year plans will unconditionally require enterprise managements to use their available capital stock more efficiently, to accelerate labour productivity growth and maintain economic expansion. Part of the problem which has built up over past years may well have been that it has been easier for enterprises in most countries of the region to rely on massive infusions of investment to raise productivity. A serious attempt is now being made by the planning authorities to close this option.

# 5. CONSUMERS' INCOMES AND SUPPLIES

The allocation of resources between different categories of consumption (the "consumption funds"), their distribution, consumer goods price policies and overall trends in supply and demand are subjects of continuous attention in east European countries and the Soviet Union. In line with the principles of centrally planned economies, the patterns of consumers' incomes, consumer price formation and total consumption policy in all countries of the region do have specific common attributes amongst which three should be especially mentioned.

In the first place, incomes and consumption in the countries of the region are not determined by the influence of market forces, whatever the actual role of the latter in the production and trade of individual countries might be. Changes in domestic or international market conditions are tempered either by various general measures to adjust income distribution and consumption, or they are compensated by measures directly affecting consumer incomes or specific consumption categories themselves. Secondly, general policy towards the distribution of the different consumption funds is influenced by an egalitarian component of income distribution. In other words, all centrally planned economies take care to ensure that differences in the economic and social position of different groups remain within a socially defined framework. Finally, the east European countries and the Soviet Union usually implement policy in this area via three channels: wages and salary funds within enterprises and other institutions, designed to stimulate economic performance; the formation and distribution of the different social consumption funds; and a system of price subsidies covering a wide range of items from basic foodstuffs such as milk and bread to children's clothing, housing, public utility tariffs and rents. Since measures via the three channels mentioned may have rather different impacts, no comprehensive picture of trends in the consumption sphere can be obtained unless incomes and income policies, consumer price policies and consumer supplies and housing are examined.

Following the general approach which the preceding general comments imply and taking into account the main outlines of economic policies, this section will present the relevant developments during 1976–1980, the main objectives in this area in the five-year plans for 1981–1985, events in 1981 and plans for 1982.

The main principle of economic policies in the countries of the region is to respond to the requirement to ensure an "ever rising level of satisfaction of the material and cultural needs of the population". This is even treated in the countries themselves as a basic economic law. According to such general requirements and to the more concrete targets incorporated in the five-year plans, an increased standard of living, on different scales, was recorded in the countries of the region during the 1976–1980 period. Different levels and tempos of economic development, as well as different preferences in economic policies at the same time, are clearly illustrated by some of the specific characteristics of the evolution in consumers' incomes and supplies. In some countries, the traditional policy towards all aspects of incomes, prices and consumption, was continued, while in others certain novelties were introduced. Policy objectives for the 1981–1985 period confirm that the special attention paid throughout the region to consumption and in particular social consumption is being maintained, in line with the different emphasis and specific features of development strategy, management and planning in individual countries.

### (i) Incomes and incomes policies

In the 1976–1980 period, increases in *real incomes per head of population* were reported in all countries of eastern Europe and the Soviet Union: in most countries of the region, however, the average annual rates of growth of real income were somewhat lower than planned, ranging from 1.3 per cent in Czechoslovakia to 5.1 per cent in Romania (table 3.5.1).

*Real wages* per wage- or salary-earner increased more slowly than real per capita incomes—except in the German Democratic Republic, Romania and the Byelorussian SSR, thus reflecting some differences in individual countries' wage policies, and generally high rates of growth of social consumption funds which influenced the rise of real incomes.

In the 1981–1985 plan period, a rise in real income per head of population is planned in all countries of the region. Average annual growth rates range between 1.1–1.4 per cent in Hungary and 3.9–4.2 per cent in the German Democratic Republic. A planned slight slowdown in rates of growth (in comparison with performance in the previous five-year period) is expected in most contries of the region, following overall economic expansion trends.

In 1981, the highest increase in the real per capita income of population was registered in the German Democratic Republic and in the Soviet Union (4 and

TABLE 3.5.1

**Real income and real wages**
(*Average annual percentage change*)

| Period | *Real income per head of population* | *Real wages per wage- or salary-earner* | *Real income per head of population* | *Real wages per wage- or salary-earner* |
|---|---|---|---|---|
| | *Bulgaria* | | *Romania* | |
| Plan 1976–1980 | 3.7 | 3.1[a] | 6.2–7 0 | 3.4–4.1 |
| 1976–1980 | 2.6 | 0.5 | 5.1 | 6.1 |
| 1979 | 2.9 | 1.5 | 3.3 | 3.9 |
| 1980 | 3.4 | −0.3 | 2.4 | 3.0 |
| Plan 1981 | 3.1 | . . | . . | 3.4 |
| 1981 | 3.0 | . . | 2.2 | 1.0 |
| Plan 1982 | 3.0 | . . | 2.7 | 1.5 |
| Plan 1981–1985 | 2.8 | . . | 3.6 | 2.9 |
| | *Czechoslovakia* | | *Soviet Union* | [b] |
| Plan 1976–1980 | | | 3.9 | 3.2 |
| 1976–1980 | 1.3 | 0.7 | 3.3 | 3.0 |
| 1979 | −0.1 | −0.6 | 3.0 | 2.1 |
| 1980 | 0.0 | −1.0 | 3.5 | 3.4 |
| Plan 1981 | . . | . . | 2.9 | 1.8 |
| 1981 | 1.6* | 0.6* | 3.3 | 2.1 |
| Plan 1982 | . . | . . | 2.1 | 2.6 |
| Plan 1981–1985 | . . | . . | 3.1 | 2.8 |
| | *German Democratic Republic* | | *Byelorussian SSR* | [b] |
| Plan 1976–1980 | 3.9–4.2 | . . | 4.0 | 4.1 |
| 1976–1980 | 4.3 | 4.4 | 3.6 | 3.7 |
| 1979 | 3.4 | 4.8 | 4.0 | 2.1 |
| 1980 | 3.1 | 3.7 | 2.8 | 3.8 |
| Plan 1981 | . . | . . | 3.2 | 2.2 |
| 1981 | 4.0 | . . | 3.2 | 2.0 |
| Plan 1982 | . . | . . | 2.9 | . . |
| Plan 1981–1985 | 3.9–4.2 | . . | 3.1 | 2.6 |
| | *Hungary* | | *Ukrainian SSR* | [b] |
| Plan 1976–1980 | 3.4–3.7 | 2.7–3.0 | 3.5 | 2.8 |
| 1976–1980 | 1.6 | 0.7 | 3.2 | 3.0 |
| 1979 | 0.1 | −1.7 | 2.2 | 2.3 |
| 1980 | −0.4 | −1.8 | 2.4 | 3.6 |
| Plan 1981 | . . | . . | 2.9 | 1.1 |
| 1981 | 2.2 | 2.0* | 3.0 | 2.0 |
| Plan 1982 | 0.0–0.5 | . . | 3.0 | . . |
| Plan 1981–1985 | 1.1–1.4 | . . | 3.2 | 2.3 |
| | *Poland* | | | |
| Plan 1976–1980 | . . | 3.0–3.4 | | |
| 1976–1980 | 2.9 | 2.0 | | |
| 1979 | 2.4 | 2.1 | | |
| 1980 | 0.6 | 3.5 | | |
| Plan 1981 | . . | . . . | | |
| 1981 | 3.0 | 0.7 | | |

*Sources:* National statistics, plans and plan-fulfilment reports.

[a] Money income in real terms.

[b] Average nominal wages

3.3 per cent respectively). Other countries of the region experienced a rise of between 1.6 per cent (in Czechoslovakia) and 3.0 per cent (in Bulgaria). Plans for 1982 generally maintain the previous year's rates of growth.

*Money incomes* in 1976–1980 increased at a high rate throughout the region, at rates ranging from an annual average of 3.9 per cent in the German Democratic Republic to 11.4 per cent in Poland (table 3.5.2). Throughout the region, money incomes from agriculture increased faster than wages and wage-like incomes, except in Czechoslovakia and the Soviet Union. In the latter country average monthly remuneration of collective farmers (from collective

TABLE 3.5.2

**Money incomes**
*(Average annual percentage change)*

| *Country and period* | *Total money income* | *Wage and wage-like income* | *Income from agriculture* | *Pensions and social benefits* | |
|---|---|---|---|---|---|
| | | | | *Total* | *Pensions* |
| *Bulgaria* | | | | | |
| 1976–1980 | .. | 7.3 | 9.0 | 9.2 | 10.9 |
| 1979 | .. | 6.3 | 3.6 | 6.7 | 7.9 |
| 1980 | .. | 12.1 | 6.3 | 25.7 | 21.0 |
| 1981 | .. | .. | .. | .. | .. |
| Plan 1982 | .. | .. | .. | 10.1 | 11.9 |
| Plan 1981–1985 | .. | .. | .. | 3.2 | .. |
| *Czechoslovakia* | | | | | |
| 1976–1980 | 4.1 | 4.0 | 1.6 | 5.7 | 6.2 |
| 1979 | 3.6 | 3.4 | 1.8 | 5.7 | 5.3 |
| 1980 | 4.0 | 3.3 | 5.5 | 8.1 | 7.2 |
| 1981 | 2.8 | 2.8 | .. | 1.9 | .. |
| Plan 1982 | 2.6 | 2.0 | .. | 3.0 | .. |
| *German Democratic Republic* | | | | | |
| 1976–1980 | 3.9 | 4.3 | .. | .. | 4.9 |
| 1979 | 3.3 | 3.5 | .. | .. | 0.4 |
| 1980 | 3.5 | 3.7 | .. | .. | 10.5 |
| 1981 | 3.3 | .. | .. | .. | .. |
| Plan 1982 | 4.0 | .. | .. | .. | .. |
| Plan 1981–1985 | 3.7 | .. | .. | .. | .. |
| *Hungary* | | | | | |
| 1976–1980 | 8.2 | 7.0 | 10.9 | 12.1 | 13.0 |
| 1979 | 8.7 | 6.3 | 6.7 | 18.6 | 21.8 |
| 1980 | 8.4 | 6.5 | 7.9* | 14.0 | 15.8 |
| 1981 | 8.0 | 6.0 | 12.0* | 12.0* | 9.0 |
| Plan 1982 | 6.0 | .. | .. | .. | .. |
| *Poland* | | | [a] | | |
| 1976–1980 | 11.4 | 9.8 | 11.9 | 16.5 | 19.7 |
| 1979 | 9.9 | 9.1 | 7.3 | 17.3 | 20.8 |
| 1980 | 11.5 | 12.9 | 7.0 | 15.7 | 17.1 |
| 1981 | 27.0 | 25.9 | 64.0 | .. | 19.6 |
| *Romania* | | | | | |
| 1976–1980 | .. | 5.4 | 6.1 | .. | 3.5 |
| 1979 | 5.7 | .. | 5.8 | .. | 2.5 |
| 1980 | .. | .. | .. | .. | 1.5 |
| Plan 1981 | .. | .. | 3.3 | .. | 1.9 |
| 1981 | 6.3 | .. | 2.5 | .. | 3.4 |
| Plan 1982 | .. | .. | 3.2 | .. | 1.9 |
| Plan 1981–1985 | .. | .. | 3.4 | .. | 2.0 |
| *Soviet Union* | | | [b] | | |
| 1976–1980 | 4.9 | 5.0 | 3.2 | 5.5 | 6.6 |
| 1979 | 4.0 | 4.0 | 1.6 | 2.7 | 5.9 |
| 1980 | 5.2 | 5.2 | 1.1 | 7.3 | 7.8 |
| 1981 | .. | .. | .. | .. | .. |
| Plan 1982 | .. | 3.2 | .. | .. | .. |
| Plan 1981–1985 | .. | .. | .. | 3.7 | .. |

*Sources:* As for table 3.5.1.

[a] Non-socialized sector only, 1976–1979.

[b] Collective farmers only.

farming) increased by 26 per cent in the 1976–1980 period. The 1981–1985 plan envisages a 20 per cent rise in the wages of collective farmers from the public sector of collective farms during the period (4 per cent in 1981). Taking into account the incomes from private auxiliary farming, this will bring their total remuneration closer to the incomes of workers in state agricultural enterprises and of factory and office employees.[321]

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[321] The level of real income per collective farm family member in relation to those of factory and office employees rose from 75 per cent in 1965 to 89 per cent in 1980.

In 1981, in most countries of the region where data are available, there was a trend towards slower growth of total money incomes in comparison with the previous year. The highest rate of growth of money (nominal) incomes in the region in 1981 were registered in Poland in 1981—by 27 per cent over the previous year. As a result of sharp increases in procurement prices, incomes from agriculture increased by 64 per cent. But the fall in net material product and the considerable growth in wages, social benefits and other monetary incomes of the population led to an intensification of inflationary phenomena so that high growth of nominal money incomes can hardly be viewed as evidence of increasing real incomes.

Moderate increases in *average monthly wages and salaries* in 1976–1980 were registered in Czechoslovakia, the Soviet Union and the German Democratic Republic (a range 2.8–3.0 per cent). The highest growth rates of wages were recorded in Poland (8 per cent) and Hungary (6.2 per cent) (see text table below).

In *Bulgaria* in the 1976–1980 period, the average annual increase of monthly nominal wages was 4.5 per cent. The highest rise in wages (10.7 per cent) occurred in 1980, as a result of compensation measures following changes in retail prices at the end of 1979. Meanwhile for the 1981–1985 period, the increase is planned at the comparatively low rate of 2.2 per cent annually. At the same time, it is planned to increase minimum monthly salaries from 100 to 120 leva.

In *Czechoslovakia* in 1980 the average monthly wage of workers in the social sector of the national economy (excluding co-operative farms) increased by 15 per cent over 1975. The comparable net remuneration of collective farmers increased by 16 per cent and reached roughly the income level of other workers in the national economy.

Standard-of-living policies in the 1981–1985 plan period will be based on results achieved in raising efficiency and productivity. More stress will be placed on remuneration according to quantity and quality of work, and measures are planned to ensure an adequate living standard of persons who are not employed for health or other reasons. Wages are to be more closely related to productivity, the technical standard and quality of products, and to the foreign trade results of enterprises. It is planned also to grant enterprises which achieve savings in the labour force the possibility to raise individual wages.

In the *German Democratic Republic* the average annual rate of growth of nominal wages was a moderate 3.0 per cent during 1976–1980. It is envisaged that 1 million will be reorganized by 1985, and that inadequate working conditions for more than 300,000 employees will be improved. Following the policy of raising remuneration in the services sector, the wages of 265,000 persons employed in the health and social services were increased in December 1981, as were those of 36,000 persons in housing management and private handicrafts.

In *Hungary*, the average annual rate of growth of monthly nominal wages and salaries in 1976–1980 was relatively high (6.2 per cent). The average monthly wage of workers and employees, including allowances to compensate price rises, rose to more than 4,400 forints in 1980, i.e. 43 per cent more than in 1975, but real wages were only 3 per cent higher. Miners received the highest wages, averaging nearly 6,000 forints monthly. The lowest wages were earned by persons in the catering industry. In the 1981–1985 plan period, wages should rise in line with increased labour productivity.

In *Poland*, average wages in the state sector recorded a 47 per cent increase in the years 1976–1980, the index being 60 per cent above 1970 (the highest rise in the region). At the end of 1980, average monthly wages were 13.5 per cent higher than in December 1979. In 1981, the average monthly wage increased by 25.2 per cent in comparison with the previous year.

In *Romania* in 1976–1980, wages and wage-type incomes increased by 30 per cent as against the planned 21 per cent. Wages in the material production sphere increased by 27.8–34.3 per cent; the increases were largest in the extractive, metallurgical, building, chemicals and engineering industries. The minimum wage rose from 1,114 lei in 1975 to 1,425 lei in 1980, and the ratio of 1:5.5 for minimum to maximum remuneration was maintened. During

**Average monthly nominal wages and salaries**

| *Country* | *Average wages and monthly salaries*[a] *1980* | *Annual percentage change* | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | *1976–1980* | *1979* | *1980* | *Plan 1981* | *1981* | *Plan 1982* | *Plan 1981–1985* |
| Bulgaria | 182.5 | 4.5 | 5.1 | 10.7 | . . | . . | . . | 2.2 |
| Czechoslovakia | 2 642 | 2.8 | 2.5 | 2.4 | . . | 1.8 | 2.0 | . . |
| German Democratic Republic | 1 030 | 3.0 | 3.0 | 2.4 | . . | . . | . . | . . |
| Hungary | 4 098 | 6.2 | 5.1 | 5.7 | 4.5–5.0 | 6.0 | . . | . . |
| Poland | 5 789 | 8.0 | 8.8 | 13.5 | . . | 25.2 | . . | . . |
| Romania | 2 238 | 4.3 | 4.8 | 4.6 | 0.8 | . . | . . | 2.9 |
| Soviet Union | 168.9[b] | 3.0 | 2.1 | 3.4 | 1.8 | 2.1 | 2.6 | 2.9 |

*Sources:* As for table 3.5.1.

[a] In national currency units.

[b] Earnings plus payment and benefits from social funds totalled 233.8 roubles per month (238 roubles per month in 1981).

the five-year period, a new system of participation by employees in the profits of enterprises was introduced.

In the current five-year period, net average monthly wages and salaries are planned to rise by 15.5 per cent and minimum remuneration will increase to 1,630 lei in 1985 or by 14.4 per cent.

In the *Soviet Union*, average wages and salaries during the 1976–1980 five-year plan period rose by more than 15 per cent, with those for the average white- and blue-collar wage-earner rising from 146 to almost 170 roubles per month. New financial conditions were introduced for those in non-productive industry. Thus, some 31 million persons received pay increases of 18 per cent, while those "directly serving the population"—that is, nurses, teachers and others— received increases amounting to 23–29 per cent. There were pay rises also for individual categories of workers in key industries such as ferrous and non-ferrous metallurgy, coal, textiles, construction, agriculture and the railways.

According to the 1981–1985 plan, the monthly wages of workers and office employees is expected to rise on average by 14.5 per cent—to 193.4 roubles per month at the end of the five-year period in comparison with 172.5 roubles in 1981 and 177 roubles planned in 1982.

In the field of wage and salary policy, the aim is to ensure a closer relationship between the size of wages, salaries and bonuses and the end-results of work of collectives and of individuals.[322] The new system of determining wages will combine individual and social interests, and ensure that wages are increased in line with increased productivity. At present, about 50 per cent of workers belong to the brigade organization through which this system will be implemented.

A gradual increase of the minimum wage is planned (to 80 roubles per month in 1985) as well as in wages for workers and office employees. Priority will be accorded to those employed in the material sphere branches of the national economy. Some other centralized measures will be put into operation: regional increments in the wages and salaries of certain categories of factory and office workers in the Urals and in some areas of Kazakhstan where these supplements do not already exist; long-service increments in salaries of workers in the southern parts of the far eastern region and eastern Siberia; and further increases in supplementary pay for night work in some industries.

With the aim of attracting—and retaining—qualified cadres and of increasing wages as an incentive to greater efficiency of production and work quality, it has been decided to raise wage rates in the coal and shale industry, and in coal-mine construction during 1982 and 1983. Underground workers' wages will be increased by an average of 27 per cent, and those of workers employed in open-cast mining operations by 23–24 per cent. The wages of workers employed in other operations will rise by 18–20 per cent. Wage differentials dependent on specific working conditions will be increased. The salaries of management, engineering and technical staff will also be raised, and a 30-hour working week for miners is already in operation.

### (ii) Social consumption

#### (a) *Social expenditure policies*

The share of the social consumption funds in total incomes increased in 1976–1980 in all countries of the region; in 1980 they ranged from 21.4 per cent in Poland to 39.4 per cent in the Soviet Union (table 3.5.3). The largest portion of the fund (35–60 per cent) is channelled into pensions and social benefits. The share of education and cultural activities is usually about 20–30 per cent of the total, the share of expenditure on health services is about 15–25 per cent. The share of State housing expenditures varies—from less than 1 per cent in Bulgaria to more than 11 per cent in the German Democratic Republic. Generally, a decelerating trend in rates of growth of social consumption funds may be noted in most countries of the region (see text table below), resulting mainly from similar trends in the growth of net material product.

**Social consumption funds**
(*Average annual percentage change*)

| | *1971–1975* | *Plan 1976–1980* | *1976–1980* | *Plan 1981–1985* |
|---|---|---|---|---|
| Bulgaria | 8.9 | 6.2 | 9.2 | 3.2 |
| Czechoslovakia | . . | . . | 5.0 | . . |
| German Democratic Republic | 7.2 | 5.3 | 7.2 | 4.7 |
| Hungary | 8.7 | – | 5.2 | – |
| Poland | 12.8 | – | 14.1 | . . |
| Romania | 9.0 | 8.5 | 7.4 | . . |
| Soviet Union | 7.1 | 5.4 | 5.3 | 4.2 |

*Sources:* As for table 3.5.1.

In *Bulgaria* social consumption funds per capita increased from 429 leva in 1975 to 617 leva in 1980 (47 per cent). At the same time, it was admitted that during that period the country's potentialities had been overestimated in certain respects and that it was necessary to establish a balanced relationship between social labour productivity, national income and the social consumption funds. During the period 1981–1985 social consumption funds are planned to increase by some 9 billion leva (17 per cent)—at lower rates than in the past but roughly in accordance with the growth of national income (3.2 per cent annually). Moreover, it has been stressed

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[322] In 1981, an incentive fund for consumer co-operatives for 1981–1985 to reward higher production and procurement of livestock products from private auxiliary farming was established. The incentive fund will amount to 1 per cent of State procurements of agricultural products from private auxiliary farming activities. Ninety per cent of the fund will be used for providing incentives to achieve good sales performance in auxiliary farming, including sales of livestock products to consumers' co-operatives; 10 per cent of the fund will be used to provide incentives to employees of consumers' co-operatives to ensure increases in the procurement of livestock products from private auxiliary farming activities.

TABLE 3.5.3

**Social consumption fund**
*(Share in total incomes of population and percentage structure)*

| *Country and period* | *Social consumption funds to total incomes of population (percentages)* | *Structure of social consumption fund* | | | |
|---|---|---|---|---|---|
| | | *Pensions and social benefits* | *Education and culture*[a] | *Health* | *Other*[b] |
| *Bulgaria* | | | | | |
| 1970 | 28.7 | 46.1 | 22.0 | 13.4 | 18.5 |
| 1975 | 30.8 | 44.1 | 22.6 | 14.4 | 18.9 |
| 1980 | 32.2 | 47.2 | 22.3 | 15.1 | 15.4 |
| *Czechoslovakia* | | | | | |
| 1970 | – | 51.9 | 20.1 | 15.0 | 13.0 |
| 1975 | 36.6 | 48.3 | 20.9 | 15.2 | 15.6 |
| 1980 | 38.4 | 48.8 | 21.0 | 15.6 | 14.6 |
| *German Democratic Republic* | | | | | |
| 1970 | 29.3 | 41.5 | 24.3 | 15.3 | 18.9 |
| 1975 | 32.9 | 38.7 | 24.7 | 15.8 | 20.8 |
| 1980 | 33.4 | 37.1 | 21.7 | 17.9 | 23.3 |
| *Hungary* | | | | | |
| 1970 | 22.6 | 48.9 | 23.9 | 16.7 | 10.5 |
| 1975 | 27.2 | 56.0 | 21.3 | 14.6 | 8.1 |
| 1980 | 32.0 | 58.0 | 20.0 | 14.0 | 8.0 |
| *Poland* | | | | | |
| 1970 | 19.0 | 40.8 | 28.0 | 25.3 | 5.9 |
| 1975 | 18.9 | 39.8 | 27.0 | 26.9 | 6.3 |
| 1980 | 21.4 | 44.9 | . . | . . | . . |
| *Soviet Union* | | | | | |
| 1970 | 37.2 | 34.9 | 27.3 | 15.6 | 20.2 |
| 1975 | 38.7 | 37.3 | 27.9 | 14.3 | 20.5 |
| 1980 | 39.4 | 37.8 | 27.0 | 14.7 | 20.5 |

*Sources:* As for table 3.5.1 and *CMEA Statistical Yearbook 1981* pp. 47-48.

[a] Including student grants.

[b] Including free housing maintenance expenditures.

that the economic and social effectiveness of the utilization of social consumption funds should be improved.

In *Czechoslovakia* the provision of free services and social security benefits from the social consumption funds amounted on average to 8,950 crowns per head in 1980, or 23 per cent more than in 1975. In 1980, total social security benefits were 32 per cent greater than in 1975. Policy for 1981–1985 will accentuate a higher degree of dependence of social consumption on overall economic performance; it has also been planned to slow down the previous fast growth rate of social consumption. In 1982 the incomes deriving from social consumption funds are expected to increase by 3 per cent.

In the *German Democratic Republic* total social expenditures in 1980 increased by 42 per cent over 1975. In 1981–1985, State social funds are to be increased by 26 per cent in comparison with the 1976–1980 averages and will be used to guarantee stable consumer prices, to maintain low rents, to supply basic needs, to lower public utility tariffs, and to satisfy the growing needs in the health, social and cultural fields. Social resources for housing and for maintaining low rents will alone increase by about 50 per cent. Social payments from State funds in 1985 will increase in aggregate by 18 per cent per month for a family of four persons in comparison with 1980. In addition, the resources of the cultural and social funds of enterprises and institutions will be increased, in line with the development of productivity, by 20–25 per cent. Thus, it is planned that the population will receive about 40–42 per cent of its real income from the social funds of State enterprises and social organizations. In 1981, social consumption funds increased by 10 per cent over 1980.

In *Hungary* social consumption funds in 1976–1980 increased annually on average by 5.2 per cent. Social benefits tended to increase by some 50 per cent faster than labour remuneration throughout the 1970s. In 1981–1985, as a consequence of a slowdown in NMP growth, the maintenance of living standards is considered a primary goal of economic policy. State disbursements on housing, health services, cultural activities, social welfare, passenger transport, public services and retail trade should therefore remain at the level of the past ten years.

In *Romania*, social consumption funds were increased to 82.2 billion lei in 1980, 43.2 per cent above their 1975 level. Annual social and cultural State budget expenditures per head rose at the same time to 3,197 lei in 1980—33 per cent above their 1975 level.[323]

In the *Soviet Union* expenditure from social consumption funds in 1976–1980 increased by 34 per cent in comparison with the previous quinquennium and by 4.2 per cent in 1981.[324] In 1981–1985 social consumption funds will rise by 23 per cent, and in 1985 will amount to 144 billion roubles—or, approximately, to an average of 2,000 roubles per family of four persons. This compares with 1,750 roubles at the end of 1980.[325] The amount of benefits and payments allocated to social-demographic problems will be intensified; and the effectiveness of use of resources channelled into social consumption funds—including those from associations, enterprises, organizations and collective farms—is planned to be improved. In the Ukrainian SSR in 1985, payments from social consumption funds will be increased by 24 per cent, in comparison with 1980.

### (b) *Pensions and social welfare payments*

In most countries of the region in 1976–1980 money expenditures on *pensions* were increased at average annual rates of between 3.5 to 20 per cent (table 3.5.2). In most countries, they were higher than rates of growth of total expenditures on social benefits. Important improvements in pension and *health* schemes are planned for the 1981–1985 period.

In *Bulgaria* in 1976–1980 the rate of growth of pensions was relatively high (about 11 per cent) and the highest in the region in 1980 (21 per cent). In 1981–1985 compensation payments for temporary incapacity to work are to be increased; the lowest pension will be equivalent to one half of the minimum wage. As from 1982, old-age pensions of co-operative farmers will, following amendment of the law on pensions, be increased to 50 leva a month for persons over 70 years of age. In addition, 10 per cent will be added to the annual personal insurance payments made by farmers. Monthly payment of personal disability pensions resulting from job-related accidents, or due to illness, are to be increased by 30–38 per cent. It is estimated that these measures will benefit about 400,000 persons. There are about 2 million pensioners in Bulgaria, more than one fifth of the population.

In *Czechoslovakia* during the 1976–1980 period, average old-age pensions were increased by 24.3 per cent and reached 1,185 crowns. In the period 1981–1985 the number of places available to old-age pensioners and invalids in social care homes set up by National Committees will be increased by at least 7,000. It is planned to improve the organization and management system of the health service. For the purpose of improving the utilization of material and technical facilities and personnel, the network of public health establishments is to be reorganized, and the number of beds in public health and spa establishments is to be increased by about 8,000 over 1980.

In the *German Democratic Republic* during the 1976–1980 period, pensions were increased by 27 per cent; more funds were allotted to medical and social care than in any other five-year period. The number of doctors in 1980 increased by 7 per cent, and the number of dentists by about 12 per cent, compared with 1975. Whilst in 1970 only 2,200 jobs existed for handicapped people, during the 1970s more than 30,000 new ones were created.

During the year 1981 to 1985, in order to improve living and housing conditions for retired workers, 18,500 new places will be created in old people's homes and 18,000–20,000 in apartment blocks. Some 21,000 new medical and dental treatment centres are to be created, primarily in existing polyclinics and medical establishments.

In *Hungary*, social benefits in real terms increased by 29 per cent in 1976–1980. The average payment per pensioner increased to 2,267 forints in 1980—by 78 per cent more than in 1975. The average pension amounted to 41 per cent of average wages in 1975 and to 52 per cent in 1980. It is envisaged that the real value of the basic social allowance will be maintained during 1981–1985. The proportion of pensions paid in cash, and also family allowances where three or more children are concerned, are to be raised by 15–16 per cent. This will increase the real value of the lowest pensions. Social allowances in kind, however, are expected to increase faster in general than total income. By 1985, the average pension will be equal to 60 per cent of average income. In January 1982, following price rises for meat and meat products, a 70–100 forints a month pension supplement was introduced in addition to the minimum annual increase in pensions.

In *Poland* in 1980, the average pension amounted to 46 per cent of the average wage, as compared with 48 per cent in 1979. Increases in the lowest old-age and other pension levels were implemented from 1 November 1981: the average increase amounted to 530 zlotys per month—for private sector farmers—to 346 zlotys per month. A total of 2.9 million people have qualified for increases under these arrangements, and 17.1 billion zlotys have been allocated annually for this purpose. In addition, compensation totalling 3.6 billion zlotys was paid to all old-age and other pensioners for increases in the prices of bread and grain products from September to November 1981, and beginning in December 1981, monthly adjustments have also been paid.

In *Romania* in 1976–1980, as a result of the two phase augmentation of social insurance pensions—between 8 and 40 per cent—the average nominal State social insurance pension has increased by 21.1 per cent over the quinquennium, with bigger increments granted to retired persons on low pensions. Starting on 1 January 1979, an extra increase in the pensions of severely crippled persons and those crippled in war was granted. The pensions of more than 1.2 million co-operative peasants have been raised by more than 20 per cent.

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[323] *Scînteia*, 1980, No. 11931 and 1981, No. 12039.

[324] In 1980 the State spent an average 200 roubles a year for each schoolchild, 700 roubles a year for each student in secondary education, and over 1,000 roubles for each student receiving higher education. Annual State expenditure on crèches amounts to more than 460 roubles per child and on kindergartens about 400 roubles per child. The State spends more than 10 roubles daily on each person in hospital.

[325] As a result, the living conditions of 4.5 million families with children and of 14 million pensioners will be improved.

In the *Soviet Union* in 1980 the total amount of pension payments was increased by 35 per cent over 1975. As from November 1981, it was decided to raise minimum old-age pensions for industrial workers and office employees to 50 roubles a month and to increase minimum invalid pensions and those granted to survivors for the loss of a breadwinner. The proposal of the Union Collective Farm Council to increase minimum old-age pensions for members of collective farms to 40 roubles per month, whilst at the same time raising minimum invalid pensions and those granted for the loss of a breadwinner has been agreed for implementation during the 1981–1985 plan period. Pensions for all workers who started to receive pensions more than ten years ago will be increased. New measures are being implemented aimed at further improvements in the living conditions of veterans of the Second World War; and it has been decided to extend the network of residential homes for the aged and for invalids, and at the same time raise the levels of amenities and social and domestic services in these homes. Standard expenses for catering, medicines and other needs of residential homes for the aged and for invalids will be increased in the 1981–1985 plan period by an average 20–25 per cent. New measures will be introduced to increase opportunities for pensioners' participation in employment, including part-time work and work at home. It is estimated that in 1981–1985, the larger State allowances increasing pensions and benefiting families with children will increase the incomes of approximately 50 million persons. Within the five years in question, an additional sum of nearly 6 billion roubles will be allocated to improve social security.

In 1980 as compared with 1970, the total number of doctors per 10,000 urban dwellers was increased by 27 per cent and the number of hospital beds by 7 per cent (in the countryside, the respective figures were 45 and 25 per cent).

In 1981–1985, more attention will be paid to the development of the public health system. It is planned to increase the total number of hospital beds by 9.2 per cent and to increase the output of medicines and pharmaceuticals by approximately 40 per cent. Priority is currently given to improving the quality of medical services. In this connection, in September 1981 a special decision was adopted on the further overall development of physical culture and sport.

### (c) *Family and education allowances*

Improvements in family allowances and education schemes remain an important part of the development of social programmes in all countries of the region.

In *Czechoslovakia*, during 1976–1980, expenditure earmarked for the expansion of educational facilities, including investments, increased by 24 per cent as compared with the previous five-year plan period, and of cultural activities by 27 per cent; the value of fixed assets in these sectors rose by 32 per cent. The number of places in crèches rose by 30 per cent as compared with 1975. Assistance to families with children is to be continued during the 1981–1985 plan period and further increased in parallel with economic prospects and possibilities. Efforts will be made to place about 22 per cent of children up to the age of three under various forms of nursery care, and to care for 88 to 90 per cent of three-to-five-year-olds in nursery schools. The number of children taking meals in school canteens is to be increased to about 2.5 million.

In the *German Democratic Republic*, from December 1981, children's allowances for third and further children were increased to 100 marks per month (some 10 per cent of average wages). The State will, in future, set aside 250 billion marks for this purpose. A family of four receives an average of 860 marks per month (some 80 per cent of average wages) in the form of services and subsidies from the State. Official work hours since 1977 for some 450,000 full-time working mothers with two children have been reduced to 40, with no consequent wage reduction. New leave regulations introduced in 1979 brought further advantages for working mothers. During the years 1981–1985, the rise in the birth-rate necessitated the creation of 50,000–60,000 new places in crèches for very young children and some 120,000 new kindergarten places. The polytechnical character of secondary school education is to be further accentuated.

In *Hungary*, family allowances were doubled in the period 1976–1980. The increase was mainly the result of allowances paid to compensate for consumer price rises in 1976–1979, as well as of increases in family allowances for families with more than three children with effect from 1 July 1980.

Some 87.6 per cent of children aged three to five were admitted to kindergarten schools, as against 75.5 per cent in 1975. In the 1981–1985 period, kindergarten school education will be further developed and 30,000–35,000 new places created: by the end of the five-year plan period, needs in this respect should be almost fully met. For primary school education and development of health services, 40–50 per cent larger amounts are planned to be set aside than during the previous five-year period.

In *Poland*, new maternity allowances came into force on 1 July 1981. The allowances are paid over a period of 18 months, starting at the last month of the statutory maternity leave. In the case of one-parent families or multiple births, the period of the allowance is extended to 36 months. The amount of an allowance depends on income per family member, and is related to minimum wages, fixed at the level of 2,400 zlotys.

In *Romania*, the State allowance for children has been increased by an average of 25.5 per cent over the 1976–1980 period.

In the *Soviet Union*, more than 9 billion roubles will be allotted for increasing family allowances in 1981–1985. In accordance with new measures adopted in April 1981 and implemented in

September 1981, a system will gradually be introduced, by region (starting in 1981 and continuing through 1983), whereby paid leave (35–50 roubles per month) will be granted to working mothers who have a minimum work record of one year and also to women studying with authorized absence from work to look after children until the latter reach the age of one year.

In the next ten years, extensive development of the network of crèches and kindergartens, schools, extended day-groups and other children's establishments is planned. Furthermore, it has proved necessary to continue to follow a policy of reduced State retail prices for children's goods.

The number of pupils in day-care groups and schools will be increased by 27.5 per cent during the current five-year period. Children's pre-schools establishments financed from the State budget and with places for 29 million children will come into operation, which means an increase in places of 22.6 per cent over a five-year period. In addition, dietary and other services in the establishments will be improved; and the issue of free text-books to pupils at general-education level schools will be completed.

### (iii) Consumer prices and price policies

In most countries of the region, consumer price increases in the 1976–1980 period were greater than in the previous five-year plan period. In the German Democratic Republic and the Soviet Union, however, the consumer price indices remained practically unchanged (table 3.5.4). A relatively small price increase was recorded in Romania and Czechoslovakia (about 7 and 11 per cent, respectively) over the five-year period. The greatest consumer price increases in the region were experienced in Poland, Hungary and Bulgaria: in all these countries, food prices rose faster than those for industrial consumer goods and services. But other countries have experienced slightly greater price increases in non-food goods than in foodstuffs. State subsidies in most countries of the region were effectively used to maintain consumer-price stability or to keep price rises under control. In all countries of the region, average annual rates of growth in consumer price indices were lower than the growth rates of money incomes of the population.

In *Bulgaria* a marked rise of 13.9 per cent in the consumer price index was registered in 1980 following considerable consumer price increases at the end of 1979 (a 21.7 per cent increase in 1976–1980). In 1981, subsidies paid to farmers from the State budget for a wide range of agricultural products were estimated at 400 million leva.

In *Czechoslovakia*, the retail price index in 1980 was 10.9 per cent higher than in 1975, owing to increases in the price of materials, food and energy supplies on international markets, and increased fuels and energy costs. Prices of basic food items (other than potatoes), however, remained unchanged. In the years 1981 to 1985, despite certain adjustments of retail prices, it is planned to follow a policy of price stability for the most essential goods. Price formation remains under the strict control of the State; it is closely connected with wages and social policy.

TABLE 3.5.4

**Consumer price index**
*(Average annual percentage change)*

| *Country and year* | *Total* | *Food* | *Non-food* | *Services* |
|---|---|---|---|---|
| *Bulgaria* | | | | |
| 1976–1980 | 4.0 | 6.2 | 2.4 | . . |
| 1979 | 4.6 | 6.2 | 3.3 | . . |
| 1980 | 13.9 | 24.7 | 6.6 | . . |
| *Czechoslovakia* | | | | |
| 1976–1980 | 2.1 | 1.2 | 2.8 | 2.6 |
| 1979 | 3.9 | 1.4 | 5.3 | 5.3 |
| 1980 | 2.9 | 0.2 | 4.4 | 6.5 |
| 1981 | 0.8 | | | |
| *German Democratic Republic* | | | | |
| 1976–1980 | 0.1 | – | 0.3 | – |
| 1979 | 0.2 | – | 0.5 | – |
| 1980 | 0.5 | – | 1.3 | – |
| 1981 | 0.1* | – | 0.2* | – |
| *Hungary* | | | | |
| 1976–1980 | 6.3 | 8.5 | 5.4 | 4.0 |
| 1979 | 8.9 | 11.6 | 2.2 | 3.4 |
| 1980 | 9.1 | 13.4 | 8.5 | 7.0 |
| 1981 | 4.6 | . . | . . | |
| Plan 1982 | 5.0 | . . | . . | |
| *Poland* | | [a] | | |
| 1976–1980 | 6.6 | 7.9 | 6.3 | 5.1 |
| 1979 | 7.0 | 7.4 | 5.9 | 6.9 |
| 1980 | 8.7 | 12.8 | 7.8 | 6.6 |
| 1981 | . . | 23.0 | 18.0 | 15.0 |
| *Romania* | | | | |
| 1976–1980 | 1.4 | 1.0 | . . | 1.6 |
| 1981–1985 | 1.6 | | | |
| 1979 | 2.0 | 0.8 | . . | 1.5 |
| 1980 | 2.2 | 1.8 | . . | 1.4 |
| 1981 | 3.1 | | | 3.1 |
| *Soviet Union* | | | | |
| 1976–1980 | 0.7 | 0.4 | 1.0 | . . |
| 1979 | 1.3 | – | 1.8 | . . |
| 1980 | 1.0 | 1.0 | 2.0 | . . |
| *Ukrainian SSR* | | | | |
| 1976–1980 | 0.7 | 0.4 | 1.0 | . . |
| 1979 | 0.7 | 0.6 | 1.6 | . . |
| 1980 | 1.0 | 0.9 | 2.0 | . . |

*Sources:* As for table 3.5.1.

[a] Excluding alcoholic beverages.

In the *German Democratic Republic*, a stable retail price policy for basic goods (which account for more than four fifths of total commodities available) was continued in 1976–1980, supported by subsidies. In 1981, State subsidies for basic foodstuffs, rents and public transport were planned to amount to 19.8 billion marks—20 per cent more than in 1980. About one third of housing costs was borne by the State.

In *Hungary*, prices of meat were increased in 1976; of coffee, confectionery and spirits in 1978; of petrol, tobacco, beer, newspapers, foodstuffs, heating and household energy supplies, furniture, motorcars and certain construction materials in 1979. The consumer price level was about 36 per cent higher in 1980 than in 1975. Further price increases for a variety of consumer goods as well as services became effective in January and February 1981; these price rises accounted for 1.3 percentage points of the 4–5 per cent consumer price rise which had been projected for 1981. The increases ranged from 6 per cent for poultry to 13 per cent for beef and pork, whilst prices for lard and fat bacon remained unchanged. The price changes did not subtantially alter the relationship between the purchasing power of different social groups.[326]

In the 1981–1985 plan period the aim of price policies is to balance supply and demand. But subsidies for essential products still play an important role in supporting real incomes; during 1979–1980, the subsidy for meat and meat products was increased by 2 billion forints to 5.5 billion forints, with a 39 per cent subsidy for pork, 50 per cent for beef, 35 per cent for poultry, and 34 per cent for sausages and other meat products. Services are now more highly subsidized than food. In 1981 it was planned to spend 22.3 billion forints on subsidizing services, and to allocate 15 billion forints to long-distance and urban passenger transport.

In *Poland*, the consumer price level increased by about 38 per cent in the 1976–1980 plan period, whilst food prices (excluding alcoholic beverages) rose by 46 per cent and those for non-food goods by 36 per cent. In 1981, there was an increase in the cost of living exceeding 25 per cent in the socialized sector. The cost of foodstuffs rose by 23 per cent and of industrial consumer goods by 18 per cent. Prices of services increased by 15 per cent. In accordance with the Government decision of 30 November 1981, prices of a considerable number of consumer goods began to be established independently by producers and trade enterprises from 1 January 1982. At the same time, it was stressed that the prices of individual goods in 1982 should not, in principle, exceed the levels of production costs plus turnover tax and acceptable profits. The government decision requested the relevant agencies to introduce a method of control over price fixing by producers, as well as sanctions against attempts to obtain excessively higher-than-average profits.

In the *Soviet Union* retail prices of many basic foodstuff goods have remained unchanged since 1955, and those of meat and milk products since 1962. There has been virtually no change in the prices of a range of fabrics, clothing and footwear or the main articles in cultural and domestic use. Low apartment rents have remained unchanged for more than 50 years, as have charges for the main public and utility services (including gas and electricity). Total annual State subsidies to maintain low consumer prices amounted to almost 40 billion roubles in 1980—nearly one third of the social consumption fund excluding subsidies. The subsidies included 25 billion roubles for meat and dairy products—covering one-half of the cost of production—and about 7 billion roubles for housing maintenance. The State also subsidizes children's clothing and toys, as well as sports equipment, tourist goods, musical instruments and educational books.

The prices of new consumer goods are fixed on the basis of production costs and consumer demand. Following changes in production costs, it was decided that from 15 September 1981, the retail prices of some luxury goods would be increased by 25–30 per cent. The prices of wines, vodkas and tobacco were raised by 17–27 per cent, with the specific aim of reducing consumption. The price of petrol was doubled to 30–40 kopecks per litre, as was that of boats and boat-engines for private use. Simultaneously, a system of compensation was introduced for invalids who have been provided with vehicles free of charge or at concessionary rates. At the same time, the retail prices of synthetic fibres, garments and clothing made of the former, watches, some medicines (including antibiotics and cardio-vascular drugs), cosmetics, recreational and household goods were reduced, by 12 to 37 per cent on average.

A policy of stable retail prices for basic foodstuffs and non-food products has been adopted for the 1981–1985 plan period. State and public supervision will be intensified, and the responsibilities of ministries and departments, executives of associations, enterprises, organizations and institutions for the observance of price discipline will be increased.

### (iv) Consumer supplies and housing

#### (a) *Retail trade*

In most countries of the region, retail turnover developed in 1976–1980 at rates lower than, or similar to, overall economic growth. The most buoyant annual rates of retail trade growth were recorded in Romania, the Soviet Union and the German Democratic Republic (4–8 per cent), and the lowest in Czechoslovakia (1.7 per cent) and Hungary (2.6 per cent). Non-food sales expanded faster than those of food in all countries of the region except in Czechoslovakia. Generally fast rates of growth of services were registered throughout the region (table 3.5.5). In most countries of the region where information is available, retail trade in 1976–1980 expanded at lower rates than those of money incomes except in the German Democratic Republic. For 1981–1985, the important problem in most

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[326] This statement may be backed by relative per capita real incomes of different social groups in the country in 1970–1980, as follows:

**Relationship between the real income development of different social groups in Hungary**
*(Workers = 100)*

| | *1970* | *1975* | *1979* | *1980* |
|---|---|---|---|---|
| Peasants employed in co-operatives | 106 | 107 | 104 | 104 |
| White collar workers | 134 | 128 | 127 | 127 |
| Pensioners, etc. | 68 | 75 | 78 | 79 |

*Sources:* As for table 3.5.1.

TABLE 3.5.5

**Turnover of retail trade and services**
(*Average annual percentage change*)

| *Country and period* | *Total* | *Food* | *Non-food* | *Services* |
|---|---|---|---|---|
| *Bulgaria* | | | | |
| 1976–1980 . . . . | 3.9 | 2.4 | 4.7 | . . |
| 1979 . . . . . . . | 2.3 | 0.8 | 3.5 | −0.9 |
| 1980 . . . . . . . | 3.0 | −0.3 | 5.3 | . . |
| Plan 1981 . . . . | 4.8 | . . | . . | 13.2 |
| 1981 . . . . . . . | 4.6 | . . | . . | . . |
| Plan 1982 . . . . | 3.8 | . . | . . | 8.4 |
| Plan 1981–1985. . . | 3.9 | . . | 6.2 | 8.5 |
| *Czechoslovakia* | | | | |
| 1976–1980 . . . . | 1.7 | 2.3 | 1.2 | 5.5 |
| 1979 . . . . . . . | −0.1 | 1.6 | −1.4 | 5.3 |
| 1980 . . . . . . . | −0.3 | 2.9 | −3.2 | 9.3 |
| Plan 1981 . . . . | 2.3 | . . | . . | . . |
| 1981 . . . . . . . | 2.0 | . . | . . | . . |
| Plan 1982 . . . . | 2.8 | . . | . . | . . |
| *German Democratic Republic* | | | | |
| 1976–1980 . . . . | 4.1 | 3.4 | 4.8 | . . |
| 1979 . . . . . . . | 3.5 | 2.8 | 4.2 | . . |
| 1980 . . . . . . . | 4.5 | 3.2 | 5.8 | . . |
| Plan 1981 . . . . | 4.0 | 3.3 | 4.6 | . . |
| 1981 . . . . . . . | 2.5 | 3.0 | 2.0 | . . |
| Plan 1982 . . . . | 4.0 | . . | . . | . . |
| Plan 1981–1985. . . | 3.7–4.1 | . . | . . | . . |
| *Hungary* | | | | |
| 1976–1980 . . . . | 2.6 | 1.9 | 3.2 | 10.9 |
| 1979 . . . . . . . | 1.7 | −0.4 | 3.5 | 10.9 |
| 1980 . . . . . . . | 0.1 | 1.5 | −1.1 | 14.0 |
| Plan 1981 . . . . | 1.0–1.5 | . . | . . | . . |
| 1981 . . . . . . . | 3.4 | 2.0 | 5.0 | . . |
| *Poland* | | [a] | | |
| 1976–1980 . . . . | 3.3 | 3.2 | 3.8 | 6.9 |
| 1979 . . . . . . . | 2.7 | 4.7 | 3.0 | 3.3 |
| 1980 . . . . . . . | – | −1.5 | 2.6 | 4.3 |
| Plan 1981 . . . . | . . | . . | . . | . . |
| 1981 . . . . . . . | −6.0[b] | . . | . . | 2.2 |
| *Romania* | | | | |
| 1976–1980 . . . . | 7.9 | 7.4 | 8.4 | 11.4 |
| 1979 . . . . . . . | 5.4 | 7.0 | 3.7 | 10.6 |
| 1980 . . . . . . . | 6.6 | 5.5 | 6.3 | . . |
| Plan 1981 . . . . | 6.0 | . . | . . | 13.2 |
| 1981 . . . . . . . | 4.3 | . . | . . | 7.5 |
| Plan 1982 . . . . | 4.6 | . . | . . | 11.2 |
| Plan 1981–1985. . . | 4.8 | . . | 4.8 | 12.0 |
| *Soviet Union* | | | | |
| 1976–1980 . . . . | 4.5 | 3.5 | 5.4 | 7.5 |
| 1979 . . . . . . . | 4.1 | 3.5 | 4.1 | 7.7 |
| 1980 . . . . . . . | 5.2 | 4.4 | 6.7 | 7.2 |
| Plan 1981 . . . . | 3.2 | . . | . . | 6.8 |
| 1981 . . . . . . . | 4.4 | . . | . . | 6.1 |
| Plan 1982 . . . . | 3.1 | . . | . . | 6.9 |
| Plan 1981–1985. . . | 4.2 | . . | . . | 7.6 |
| *Byelorussian SSR* | | | | |
| 1976–1980 . . . . | 4.7 | 4.1 | 5.0 | 7.7 |
| 1979 . . . . . . . | 5.9 | 5.4 | 6.8 | 7.1 |
| 1980 . . . . . . . | 5.3 | 4.5 | 4.4 | 8.1 |
| Plan 1981 . . . . | 2.7 | . . | . . | 6.6 |
| 1981 . . . . . . . | 4.3 | . . | . . | 7.0 |
| Plan 1982 . . . . | 2.6 | . . | . . | 6.8 |
| Plan 1981–1985. . . | 3.1 | . . | . . | 7.0 |

TABLE 3.5.5 (*continued*)

| *Country and period* | *Total* | *Food* | *Non-food* | *Services* |
|---|---|---|---|---|
| *Ukrainian SSR* | | | | |
| 1976–1980 . . . . | 4.1 | 3.1 | 5.1 | 7.0 |
| 1979 . . . . . . . | 3.7 | 2.8 | 5.0 | 7.0 |
| 1980 . . . . . . . | 4.4 | 2.9 | 5.0 | 4.5 |
| Plan 1981 . . . . | 3.0 | . . | . . | 7.7 |
| 1981 . . . . . . . | 3.2 | . . | . . | 4.6 |
| Plan 1982 . . . . | 3.3 | . . | . . | 6.5 |
| Plan 1981–1985. . . | 3.9 | . . | . . | 7.1 |

*Sources:* As for table 3.5.1.

[a] Excluding alcoholic beverages.

[b] Socialized economy enterprises, excluding services.

[c] Socialized economy enterprises

countries, therefore, is to ensure that output increases faster than purchasing power. Improvements in the quality and range of consumer goods are being planned during the current period.

In 1981 retail trade turnover increased by between 2.0 per cent (in Czechoslovakia) to 4.4 per cent (in Bulgaria) in comparison with the previous year. A 6 per cent drop was registered in Poland. Plans for 1982 anticipate accelerated growth rates in Czechoslovakia, the German Democratic Republic and Romania, but a somewhat slower rate of advance in Bulgaria and the Soviet Union.

In *Bulgaria* total retail trade turnover and services increased by 21 per cent during 1976–1980 in comparison with the previous five-year period. For 1981–1985, a number of measures are planned for developing and improving standards of trade and consumer services: increased output, improved quality, and an expanded product range of consumer goods are defined as tasks of the first importance in all sectors of the economy. Retail trade turnover is planned to rise by 21 per cent in comparison with 1976–1980, and the supply of industrial consumer goods by 35 per cent. In this way, a relatively faster rise in the supply of goods and services will be ensured in relation to demand. The importance of diversification and improvement of goods and services was emphasized.

In *Czechoslovakia* retail sales rose by about 9 per cent in volume terms in 1980 compared with 1975. For 1981–1985, no targets were set for retail trade. However, a 13–15 per cent increase in services and work carried out for the benefit of the population by local economic and producer co-operative enterprises is planned. In 1981, retail trade turnover increased by a lower-than-planned 2 per cent, but a target of 2.8 per cent has been set for 1982.

In the *German Democratic Republic*, supermarkets became the principal outlets for the daily supply of consumer goods in residential areas in 1976–1980. Their numbers have increased by 300 in the last five years, and 8,300 restaurants and 200 quick-service restaurants have been built or renovated. Economic strategy for the 1980s envisages increases in the supply of quality consumer goods, though no figures were published. In 1981, services rose by 12 per cent over 1980. At the same time, co-operative and private handicraft concerns increased their repair and other services by 9 and 11 per cent, respectively.

In *Hungary*, total sales in 1980 increased by 14 per cent over 1975. No plans for retail trade turnover were announced for 1981–1985. In the first half of 1981, retail trade turnover rose by 3.4 per cent in value terms.

In *Poland* increases of consumer purchasing power with no corresponding increase in the supply of goods and services has been a feature of the last decade—especially during 1976–1980. The situation worsened (especially in 1981) when the volume of goods (excluding services) decreased by 6 per cent. In the year to September 1981, market supplies at current prices increased by 5 per cent over the year, but meat supplies decreased by 26 per cent and fish and fat supplies by 31 per cent. In spite of rationing and price rises, shortages of butter, sugar, rice, flour and barley occurred. It was estimated that the excess of consumer demand on supply could have increased to 500–600 billion zlotys by the end of 1981 or 35–40 per cent of the annual total market supplies. In order to close the gap between supply and demand, a system of rationing of certain food and non-food items was introduced from 1 April 1981. Considerable aid was accorded to Poland by eastern and western countries in order to cover the supply deficit. In accordance with the 1981 trade agreement, imports from the Soviet Union include industrial consumer goods and foodstuffs. Other CMEA member countries increased their exports to Poland by $US 86 million over the planned level in the first three months of 1981. The bulk of increased supplies consisted of consumer goods. Additional supplies in the form of food and industrial consumer goods were despatched to Poland by CMEA member countries starting from end-December 1981.

EEC food delivery contracts with Poland included the supply, at a level of 15 per cent below world prices. Foodstuff supplies to Poland were seriously constrained by United States Government withdrawal of credit facilities for certain agricultural commodities at the end of 1981.

In *Romania* sales of goods through retail trade units were 46.2 per cent higher in 1980 than in 1975, and 6.6 per cent above 1979 levels. Sales of foodstuffs rose by 42.9 per cent over 1976–1980, sales from public catering services by 42.9 per cent, and sales of non-food goods by 49.6 per cent. In order to ensure an increase in domestic sales of foodstuffs, special efforts were made to reduce exports. Retail trade turnover is expected to increase annually by 4.8 per cent during 1981–1985. In 1981 retail trade turnover increased in line with the plan target. In 1982, the planned increase in the purchasing power of the population is expected to be matched by a 4.6 per cent increase in retail sales and an 11.2 per cent increase in services.

In the *Soviet Union* total retail trade turnover rose by 24.4 per cent in 1976–1980—one of the highest increases in the region. The considerable expansion in purchasing power, however, combined with stable retail prices, created a sharp increase in demand for food products and other consumer goods which could not be met. The 1981–1985 plan aims therefore at an increase in the total volume of retail trade by more than in the previous quinquennium, and at rates of growth higher than the rise in incomes.[327] In August 1981, decisions on increasing the production of consumer goods and improving their quality and variety in 1981–1985 were adopted.[328] Additional measures are envisaged to increase consumer goods production in heavy industry. These aspects of the plan are reflected in the somewhat faster rate of growth retained for group B industry in comparison with group A (26.2 and 25.5 per cent over the five years respectively). In the field of trade and public catering, policy to expand the retail trade network, and improve the material and technical base of State and co-operative trade has been approved.[329] Special attention will be paid to the construction of self-service department stores, special stores, and large shopping centres, and to the extension of the network of outlets belonging to industrial ministries and associations and also those operated by State farms, collective farms and farm associations for the sale of fruit and vegetables. The sales volume of consumer services will be increased by 44 per cent and will amount to more than 11 billion roubles by 1985. Special attention will be paid to consumer services in rural localities, and in the eastern regions of the country. In 1981 total retail trade turnover in the Soviet Union rose by 4.4 per cent over 1980, or by 111.8 billion roubles. The volume of services rose by 6.1 per cent (by 6.9 per cent in rural areas).

In order to meet the requirements of basic foodstuffs and industrial consumer goods in CMEA member countries long-term programmes oriented towards co-operation between CMEA member countries up to 1990 were signed in 1978 and 1979. At the 35th meeting of the Council for Mutual Economic Assistance (CMEA), held in Sofia (Bulgaria) on 2–4 July 1981, member countries were recommended to expand their co-operation in the production of foodstuffs and industrial consumer

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[327] Thus, the 1981–1985 plan calls for an average annual increase in retail trade turnover by 4.2 per cent, in the sales volume of consumer services by 7.6 per cent, but in average monthly earnings of workers and office employees by 2.8 per cent, and in the pay of collective farmers by 3.7 per cent.

[328] The implementation of these measures will make it possible to increase the supply of cotton fabrics to the population and garment industry in 1985 by 31 per cent compared with 1980. The output of knitted underwear and cotton and mixed fibre thread will be increased by 36 per cent and of synthetic washing agents by 150 per cent. Production of linen for babies and infants, wallpaper, rubber footwear, exercise books, pencils, toilet soap, tea and other products should be increased considerably. In keeping with the tasks for increasing production of cultural and household goods by 40 per cent, over the current five years, output of colour television sets should be increased by 130 per cent in 1985, cassette recorder production is expected to rise by 120 per cent, automatic and semi-automatic washing machines by 60 per cent, refrigerators with a capacity of 20 litres by 70 per cent and spare parts for motorcycles by 50 per cent. A considerable increase is planned in the output of electronic quartz watches, reflex cameras, steel, enamel and chinaware, garden equipment, paints and other goods.

[329] See CPSU Central Committee and USSR Council of Ministers decisions: "On Measures for the Further Development of Trade and Improvement of Trade Services of the Population in the Eleventh Quinquennium", *Pravda*, 23 January 1982.

TABLE 3.5.6

### New dwellings constructed

| Country and period | New dwellings (thousands) Total | State | Co-operative | Individual | New units per 100,000 inhabitants | Average size of dwellings in square metres |
|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | |
| 1976–1980 | 351.8 | .. | .. | | 800 | 60.7 |
| 1979 | 66.2 | 33.2 | 33.0 | | 750 | 59.2 |
| 1980 | 77.3 | .. | .. | | 838 | 59.0 |
| Plan 1981 | 80.0 | .. | .. | | .. | .. |
| 1981 | 70.3 | .. | .. | | .. | .. |
| Plan 1982 | 72.6 | .. | .. | | .. | .. |
| Plan 1981–1985 | 360.0 | .. | .. | | .. | .. |
| *Czechoslovakia* | | | | | | |
| 1976–1980 | 648.2 | 264.6 | 197.9 | 185.7 | 860 | 41.5 |
| 1979 | 122.7 | 47.7 | 39.3 | 35.7 | 810 | 43.0 |
| 1980 | 128.9 | 50.5 | 46.0 | 32.4 | 840 | 44.3 |
| Plan 1981 | 109.8 | .. | .. | .. | .. | .. |
| 1981 | 94.1 | 31.4 | 33.2 | 21.5 | 613 | .. |
| Plan 1982 | .. | .. | .. | .. | .. | .. |
| Plan 1981–1985 | 480–550 | .. | .. | .. | .. | .. |
| *German Democratic Republic* | | | | | | |
| 1976–1980 | 559.4 | 290.3 | 197.5 | 71.6 | 668 | 61.8 |
| 1979 | 117.4 | 62.2 | 37.3 | 17.8 | 701 | 62.6 |
| 1980 | 120.2 | 62.0 | 39.2 | 19.0 | 718 | 62.7 |
| Plan 1981 | 117.0 | .. | .. | 12.7 | .. | .. |
| 1981 | 125.7 | .. | .. | 15.6 | 753 | .. |
| Plan 1982 | 117.5 | .. | .. | 13.3 | .. | .. |
| Plan 1981–1985 | 600.0 | .. | 252–270 | 60.0 | .. | .. |
| *Hungary* | | | | | | |
| 1976–1980 | 452.7 | 162.2 | 290.5 | | 837 | 65.3 |
| 1979 | 88.2 | 34.1 | 54.1 | | 827 | 65.0 |
| 1980 | 89.1 | 30.3 | 58.7 | | 835 | 65.0 |
| Plan 1981 | 76–78 | 23–24 | 53–54 | | .. | .. |
| 1981 | 77.0 | .. | .. | | 842 | 65.0 |
| Plan 1982 | 77.0 | 19–20 | 57–58 | | .. | .. |
| Plan 1981–1985 | 370–380 | 115–120 | 255–260 | | .. | .. |
| *Poland* | | | | | | |
| 1976–1980 | 1308.3 | 245.0 | 724.2 | 339.1 | 749 | 62.0 |
| 1979 | 278.0 | 53.4 | 152.6 | 72.0 | 789 | 63.8 |
| 1980 | 217.1 | 39.4 | 122.0 | 55.7 | 610 | 64.0 |
| Plan 1981 | .. | .. | .. | .. | .. | .. |
| 1981 | 183.0 | .. | .. | .. | .. | 63.4 |
| Plan 1982 | 200.0 | .. | .. | .. | .. | .. |
| *Romania* | | | | | | |
| 1976–1980 | 840.6 | 755.3 | | 85.3 | 770 | 74.2 |
| 1979 | 191.6 | 179.3 | | 12.3 | 869 | 74.5 |
| 1980 | 197.8 | 186.6 | | 11.2 | 891 | 74.4 |
| Plan 1981 | 185.0 | .. | | .. | .. | .. |
| 1981 | 164.2 | 153.3 | | 10.9 | .. | .. |
| Plan 1982 | 190.0 | 170.0 | | 20.0 | .. | .. |
| Plan 1981–1985 | 900.0 | 800.0 | | 100.0 | .. | .. |
| *Soviet Union* | | | | | | |
| 1976–1980 | 10 287 | 8 434 | | 1 853 | 791 | 51.5 |
| 1979 | 1 933 | 1 572 | | 361 | 737 | 52.5 |
| 1980 | 2 050 | 1 713 | | 337 | 775 | 52.5 |
| Plan 1981 | 2 115 | .. | | .. | .. | 51.5 |
| 1981 | 2 000 | .. | | .. | .. | 53.0 |

*Sources:* As for table 3.5.1.

goods, and to increase mutual trade in these products. During the session, multilateral general agreements were signed for the comprehensive development of sugar production in Cuba, as well as for the production and industrial processing of citrus fruits, with a view to consolidating the country's export potential and also satisfying more fully the long-term requirements of the European CMEA member countries with regard to these products.

### (b) *Housing construction*

In most countries of the region in the 1981–1985 period, total residential housing construction is planned to rise or to remain at the same level as in the previous quinquennium, except in Czechoslovakia and Hungary (table 3.5.6). At the same time, policies aiming at improvement in the quality of newly-constructed apartments, and at modernization of old dwellings, will be generally maintained. Priority will be given to housing construction in new industrial regions and in some rural areas.

In *Czechoslovakia*, some 650,000 new dwelling units were completed in 1976–1980—about 6 per cent more than in the previous five-year period. The average figure for housing construction was 8.6 new dwelling units per thousand inhabitants per year. In 1981–1985 the demand for new housing construction in terms of investment, civic amenities and fuel and energy resources are expected to limit housing construction to about 500,000 new units—some reduction compared with 1976–1980. Construction capacities thus released will be used to expedite the equipment of new housing estates with technical and civic amenities and facilities. Moreover, the modernization of between 40,000 and 50,000 dwelling units in social ownership will be ensured within the framework of comprehensive housing construction. During 1981, 94,000 new dwellings were completed—14 per cent fewer than the total planned for the year.

In the *German Democratic Republic*, from 1976 to 1980 about 813,000 dwelling units were either built or modernized—63,000 more than planned. The long-term housing programme will be continued at an increased rate in 1981–1985. As a result, a total of 940,000 new and modernized dwellings will be provided for about 2 million persons, especially workers and families with several children, as well as young couples. In 1981 the annual housing programme was overfulfilled by 7.4 per cent.

In *Hungary*, 493,000 dwellings were completed in 1976–1980, 3.5 per cent more than in the previous five-year period. Some 36 per cent of dwellings were built employing State resources, the others were constructed within the framework of individual undertakings and by utilizing State loans. In the 1981–1985 plan period, a further improvement in housing conditions is envisaged, and about 375,000 new dwelling units will be built. During the plan period about 90,000–100,000 local council-controlled dwellings will be reconstructed and 40,000–50,000 units will be modernized. As a result of new construction and modernization during the 1981–1985 plan period, the housing conditions of 1.5 million people should be improved. In 1981 the planned target for the construction of 77,000 new dwellings was fulfilled and a similar target was established for 1982.

In *Poland* priority among social policy goals has been invariably directed towards housing construction. The 1976–1980 five-year plan period was marked by the creation of about 1.3 million flats, providing a considerable improvement in housing conditions for nearly a quarter of the entire number of Polish families. In 1981, housing construction decreased by 16 per cent in comparison with 1980. But for 1982 a 9 per cent increase is planned in comparison with the 1981 level.

In *Romania* some 840,000 dwellings were constructed in 1976–1980, while in the 1981–1985 plan period, out of the 900,000 flats which will be built by the state, 360,000 will be built for sale on the basis of state credits and about 100,000 flats will be built by private individuals.

In the *Soviet Union* some 10.3 million dwellings (530 million $m^2$) were constructed during 1976–1980. During the period more than 87 billion roubles of capital investment were channelled into housing construction from all sources of financing. The value of fixed housing assets by the end of 1980 amounted to some 399 billion roubles, nearly one fifth of the total value of the country's fixed assets. In 1981 a total of 2 million dwellings was completed, some 5 per cent lower than planned. For 1982 an increase of 3 per cent over 1981 output is envisaged by the annual plan of the country. In 1981–1985 residential construction is planned on the level of the previous five-year plan period. Priority in housing construction will be given to accommodation for employees of newly built enterprises or in developing regions—especially Siberia and the Far East—and in rural areas. Altogether 93 billion roubles, or 7 per cent more than in the previous quinquennium, are to be allocated for housing construction. It is planned to build 30 million $m^2$ of housing in the countryside—more than was built during the 1976–1980 period. It is also planned to complete the transition to the building of houses according to standard blueprints, with improved apartment layouts and better operation and maintenance conditions and to enhance the role of housing construction co-operatives in the improvement of the housing situation. Rent and communal services in the Soviet Union account for an average of 3–4 per cent of the family budget. The revenue from rents and payments for utilities covers only a third of the maintenance costs.

## (v) Consumption patterns

The increasing share of consumption in total distributed net material product was clearly observed in the region during the 1976–1980 plan period and this will most probably be maintained in the current five-year plan period (table 3.5.7). The largest increase in consumption in 1976–1980 was experienced in Poland, Bulgaria and Hungary. In 1981–1985, according to available information, the largest

TABLE 3.5.7

**Total consumption; personal and social consumption**
(*Percentage of distributed NMP*)

| | *Consumption* | | | *Consumption* | | |
|---|---|---|---|---|---|---|
| *Period* | *Total* | *Personal* | *Social* | *Total* | *Personal* | *Social* |
| | *Bulgaria* | | | *Poland* | | |
| 1970 | 69.2 | 49.3 | 19.9 | 73.5 | 62.2 | 11.3 |
| 1975 | 67.2 | 46.5 | 20.7 | 64.3 | 53.9 | 10.4 |
| 1979 | 75.8 | 53.0 | 22.8 | 74.3 | 61.8 | 12.5 |
| 1980 | 73.1 | 49.6 | 23.5 | 80.2 | 66.9 | 13.3 |
| Plan 1985 | 75.0 | .. | .. | .. | .. | .. |
| | *Czechoslovakia* | | | *Romania* | | |
| 1970 | 73.1 | 55.7 | 17.4 | 71.2[a] | .. | .. |
| 1975 | 71.2 | 52.3 | 18.9 | 65.9[b] | .. | .. |
| 1979 | 75.4 | 55.1 | 20.3 | .. | .. | .. |
| 1980 | 75.0 | 54.6 | 20.4 | 63.7[c] | .. | .. |
| | *German Democratic Republic* | | | *Soviet Union* | | |
| 1970 | 75.6 | 66.4 | 9.2 | 70.5 | .. | .. |
| 1975 | 77.7 | 67.0 | 10.8 | 73.4 | .. | .. |
| 1979 | 80.0 | 68.8 | 11.2 | 74.8 | .. | .. |
| 1980 | 78.9 | 68.2 | 10.7 | 75.3 | .. | .. |
| 1981 | .. | .. | .. | 76.0* | .. | .. |
| Plan 1985 | .. | .. | .. | 78.0 | .. | .. |
| | *Hungary* | | | | | |
| 1970 | 76.5 | 66.9 | 9.6 | | | |
| 1975 | 73.6 | 64.1 | 9.5 | | | |
| 1979 | 75.9 | 64.8 | 11.1 | | | |
| 1980 | 78.1 | 66.4 | 11.7 | | | |
| 1981 | 81.0* | .. | .. | | | |
| Plan 1985 | 81.0–83.0 | .. | .. | | | |

*Sources:* As for table 3.5.1. [a] 1966–1970. [b] 1971–1975. [c] 1976–1980.

increase is expected to be in Hungary and the Soviet Union.[330]

The increase in consumption shares reflects the priority given to the maintenance of increases in consumption levels in absolute terms. The structure of consumption, however, is to be developed differently in individual countries. Generally, the ratio of personal consumption to the total is stable or decreasing somewhat. On the other hand, depending on national patterns of social policy, levels of social and personal consumption are different. Bulgaria, for instance, places greater importance on relatively low-priced supplies to consumers through an increased share of social consumption in relative terms, whilst in the German Democratic Republic there is a relatively greater emphasis on personal consumption.

As far as the *allocation of family incomes* is concerned, there is a diminishing difference in expenditure patterns according to different social strata, which, however, still remained quite important in 1980 (table 3.5.8). Shares of *foodstuffs* decreased in some countries of the region and stabilized in the remainder, whilst differences between the spending habits of workers and white-collar workers became less marked. Changes in buying habits were noticeable in the case of workers and peasants. Food consumption represented one third to one half of total family budgets and its predominance was maintained in 1980. In most countries of the region spending on *textiles, clothing and footwear* decreased during the 1970s—for example, in Poland and Romania and, in the case of peasant families, in Hungary and Bulgaria also—but in general the changes were of minor importance. The highest share of *consumer durables* in family spending was registered in Czechoslovakia, the German Democratic Republic and Poland, with the most buoyant increase in the latter country.

*Dwelling maintenance costs* differ according to housing traditions and the level of urbanization. It should also be borne in mind that, together with food prices, housing expenditures are component parts of a social-security-oriented price policy. With a few

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[330] In the Soviet Union in 1976–1980, expenditures on consumption were increased by 26 per cent in comparison with the previous five-year period, and in 1981–1985 an increase of 22 per cent is planned, while the respective increases in national income amounted to 23 and 18 per cent respectively.

TABLE 3.5.8

**Structure of family expenditure**

*(Percentage distribution, total expenditure = 100)*

A: Workers' families. B: Peasant families. C: Non-manual workers' families.

| | *Food* | | | *Textiles, clothes footwear* | | | *Consumer durables* | | | *Maintenance of dwellings* | | | *Savings* | | | *Other* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *A* | *B* | *C* | *A* | *B* | *C* | *A* | *B* | *C* | *A* | *B* | *C* | *A* | *B* | *C* | *A* | *B* | *C* |
| *Bulgaria* | | | | | | | | | | | [a] | | | | | | | |
| 1970 | 33.9 | 34.8 | 29.1 | 9.6 | 9.0 | 9.6 | 4.7 | 4.5 | 4.3 | 8.1 | 7.2 | 6.1 | 11.2 | 12.2 | 12.9 | 32.5 | 32.3 | 38.0 |
| 1975 | 32.0 | 33.6 | 28.8 | 9.2 | 7.4 | 9.6 | 4.2 | 4.2 | 4.3 | 6.2 | 6.6 | 5.5 | 13.4 | 14.3 | 12.5 | 35.0 | 33.9 | 39.3 |
| 1979 | 32.2 | 38.4 | 29.8 | 9.5 | 7.8 | 10.4 | 4.3 | 3.5 | 4.2 | 5.8 | 7.4 | 5.6 | 9.6 | 6.9 | 10.1 | 38.6 | 36.0 | 39.9 |
| 1980 | 36.8 | 41.4 | 34.9 | 8.9 | 6.9 | 9.1 | 3.8 | 3.4 | 3.9 | 6.1 | 6.0 | 6.2 | 9.0 | 15.8 | 8.9 | 35.4 | 26.5 | 37.0 |
| *Czechoslovakia* | | | | | | | | | | | | | | | | | | |
| 1970 | 33.3 | 26.4 | 29.5 | 9.7 | 11.4 | 9.2 | 17.2 | 23.9 | 18.2 | 11.5 | 10.2 | 13.8 | 9.2 | 17.2 | 9.9 | 19.1 | 10.9 | 19.4 |
| 1975 | 29.8 | 27.1 | 26.7 | 9.1 | 10.3 | 9.1 | 19.5 | 25.6 | 19.9 | 11.3 | 9.9 | 13.3 | 10.2 | 15.2 | 10.7 | 20.1 | 11.9 | 20.3 |
| 1979 | 27.3 | 26.0 | 24.5 | 9.7 | 11.1 | 10.0 | 18.8 | 24.7 | 19.6 | 12.0 | 10.9 | 13.6 | 10.4 | 13.6 | 10.6 | 21.8 | 13.7 | 21.7 |
| 1980 | 27.0 | 26.0 | 24.4 | 9.6 | 11.1 | 9.9 | 17.7 | 23.7 | 18.4 | 12.9 | 11.9 | 14.8 | 10.5 | 13.4 | 10.4 | 22.3 | 13.9 | 22.1 |
| *German Democratic Republic* | | | | | | | | | | | [c] | | | [d] | | | | |
| 1970 | 27.1[b] | 28.2 | .. | 12.3 | 12.7 | .. | 16.5 | 16.5 | .. | 4.5 | 3.0 | .. | 22.6 | 18.3 | .. | 17.0 | 21.3 | .. |
| 1975 | 28.6 | 26.9 | .. | 12.6 | 12.6 | .. | 20.2 | 20.5 | .. | 4.3 | 2.7 | .. | 15.5 | 17.6 | .. | 18.8 | 19.7 | .. |
| 1979 | 27.1 | 26.2 | .. | 12.8 | 12.3 | .. | 22.1 | 21.2 | .. | 4.0 | 2.3 | .. | 16.0 | 21.4 | .. | 18.0 | 16.3 | .. |
| 1980 | 27.1 | 26.5 | .. | 12.6 | 12.6 | .. | 22.3 | 23.9 | .. | 4.2 | 2.4 | .. | 15.5 | 17.3 | .. | 18.3 | 17.3 | .. |
| *Hungary* | | | | | | | | | | | | | | [e] | | | | |
| 1970 | 37.6 | 41.3 | 30.3 | 15.4 | 13.8 | 15.6 | 8.6 | 8.4 | 9.8 | 15.4 | 14.7 | 22.9 | | 5.6 | | 17.4 | 16.2 | 15.8 |
| 1975 | 32.6 | 34.8 | 26.7 | 14.5 | 13.5 | 13.8 | 9.5 | 9.8 | 11.1 | 17.0 | 15.1 | 21.8 | | 6.0 | | 20.4 | 20.8 | 20.6 |
| 1979 | 33.1 | 34.5 | 27.5 | 11.6 | 11.3 | 11.4 | 9.2 | 9.0 | 10.0 | 16.9 | 14.2 | 19.1 | | 4.7 | | 25.5 | 26.3 | 27.3 |
| 1980 | 33.8 | 35.9 | 28.0 | 11.0 | 10.8 | 10.5 | 9.1 | 8.5 | 11.5 | 16.4 | 14.7 | 19.0 | | 6.9 | | 22.8 | 23.2 | 24.1 |
| *Poland* | | | | | | | | | | | | | | | | | | |
| 1970 | 46.7 | 53.9 | .. | 15.7 | 16.0 | .. | 14.8 | .. | .. | 14.8 | .. | .. | .. | .. | .. | .. | .. | .. |
| 1975 | 41.1 | 49.6 | .. | 15.4 | 12.5 | .. | 10.4 | 15.8 | .. | 15.5 | 12.4 | .. | .. | .. | .. | .. | .. | .. |
| 1979 | 40.9 | 42.7 | .. | 14.4 | 12.3 | .. | 15.9 | 25.1 | .. | 15.3 | 13.9 | .. | .. | .. | .. | .. | .. | .. |
| 1980 | | | | | | | | | | | | | | | | | | |
| *Romania* | | | | | | | | | | | | | | | | | | |
| 1978 | 45.8 | 63.3 | .. | 18.9 | 14.1 | .. | 11.0 | 6.4 | .. | 14.1 | 11.0 | .. | .. | .. | .. | .. | .. | .. |
| 1979 | 45.7 | 63.1 | .. | 17.6 | 14.1 | .. | 11.4 | 6.4 | .. | 14.7 | 11.2 | .. | .. | .. | .. | 10.6 | 5.2 | .. |
| 1980 | 45.6 | 62.7 | .. | 17.5 | 13.8 | .. | 11.2 | 6.1 | .. | 15.2 | 12.5 | .. | .. | .. | .. | 10.5 | 4.9 | .. |
| *Soviet Union* | | | | | | | | | | [c] | [f] | | | | | | | |
| 1970 | 35.7 | 40.4 | .. | 15.5 | 15.7 | .. | 5.8 | 4.9 | .. | 2.8 | 1.8 | .. | 4.1 | 6.4 | .. | 36.1 | 30.8 | .. |
| 1975 | 32.9 | 37.1 | .. | 15.4 | 15.7 | .. | 6.5 | 5.9 | .. | 2.7 | 1.6 | .. | 6.7 | 6.0 | .. | 35.8 | 33.7 | .. |
| 1979 | 31.8 | 35.7 | .. | 15.6 | 15.6 | .. | 6.6 | 6.2 | .. | 2.7 | 1.6 | .. | 6.6 | 8.9 | .. | 36.7 | 32.0 | .. |
| 1980 | 31.7 | 35.9 | .. | 16.1 | 16.5 | .. | 7.2 | 6.7 | .. | 2.7 | 1.5 | .. | 5.9 | 7.3 | .. | 36.4 | 32.1 | .. |

*Sources:* As for table 3.5.1.

[a] Including rent, cost of fuel and electricity and housing.

[b] Data include employees' and workers' families together.

[c] Rent, fuel and electricity only.

[d] Growth of total savings of the population.

[e] Per capita savings of the total population.

[f] Fuel and electricity only.

**Personal savings deposits**
(*Average annual percentage change*)

| *Country* | *1976* | *1978* | *1979* | *1980* | *1976 1980* | *Ratio of stocks of saving deposits to retail trade turnover* | |
|---|---|---|---|---|---|---|---|
| | | | | | | *1975* | *1980* |
| Bulgaria | 7.9 | 3.5 | 7.9 | 7.3 | 6.3 | 0.72 | 0.86 |
| Czechoslovakia | 8.9 | 3.3 | 3.2 | 5.5 | 6.0 | 0.55 | 0.61 |
| German Democratic Republic | 6.5 | 6.9 | 5.4 | 2.8 | 5.8 | 0.92 | 0.99 |
| Hungary | 14.3 | 16.2 | 8.7 | 7.0 | 12.3 | 0.37 | 0.42 |
| Poland | 10.3 | 10.4 | 11.6 | 8.0 | 10.2 | 0.37 | 0.36 |
| Romania | 16.0 | 25.3 | 12.2 | . . | . . | . . | . . |
| Soviet Union | 13.2 | 12.4 | 11.5 | 7.0 | 11.5 | 0.47 | 0.58 |

*Sources:* As for table 3.5.1; and *CMEA Statistical Yearbook* 1981

exceptions and despite some minor fluctuations, the shares remained stable or the importance of this item in comparison with spending on food somewhat decreased throughout the last decade. Expenditures on food and maintenance of dwellings taken together are highest in Hungary, Poland and Romania.

In *physical terms* there was a significant rise in *food consumption* between 1970 and 1980 (see table 3.5.9). Most changes occurred in the first part of the decade—and were throughout the region for meat and meat products generally and, in certain countries, for other goods as well. The highest annual level of meat consumption (89.4 kg per capita) was achieved in the German Democratic Republic, and in relative terms Bulgaria and Romania achieved fastest growth. In most countries, consumption of cereals decreased during the decade and in every country the 1980 level was lower than in 1970. There were important differences in the consumption of vegetables. Most of these differences were due to household traditions and also to the prevalence among families of private auxiliary farms.[331]

In the case of *industrial consumer goods*, increases in the supply of motor-cars were the most significant development (table 3.5.10). Regarding other commodities, in most countries the rate of spending on refrigerators and washing machines and other household items had begun to level off after 1975. Plan information for 1981–1985 is scarce: only Bulgaria and Romania have produced projections for the per capita consumption of different industrial consumer goods.

Concerning changes in *personal savings* in family budgets, several factors can be identified. In most countries of the region in the 1976–1980 period, personal savings deposits increased much faster than money incomes of the population, except in Bulgaria and Poland. The highest rates of growth of savings occurred in Romania, Hungary and the Soviet Union (see preceding text table). The ratio of savings deposits to retail trade turnover in 1980 rose in almost all countries of the region in comparison with 1975 figures. In general, the relatively rapid rise of personal savings reflected the increase in money incomes of the population, changes in the structure of consumers' expenditures in favour of durable goods, housing construction, and some unsatisfied demand—chiefly in the range and quality of a number of consumer goods and services.

In *Czechoslovakia* the total amount of personal savings deposits at the end of February 1981 was 38 per cent greater than in 1975. In *Hungary*, the stock of savings deposits by the end of 1980 had increased by about 80 per cent in comparison with 1975. In the first half of 1981, a higher proportion of increased earnings were deposited as savings (3.4 per cent compared with 2.5 per cent in 1980). In *Poland* in 1980, the total amount of savings deposits increased by about 70 per cent in comparison with 1975. In 1981, the increase in savings amounted to 177 billion zlotys, or by 36 per cent at the end of 1980. On average, people saved about 15.4 per cent of their current incomes, compared with 6.1 per cent a year earlier. This was largely a reflection of the scarcity of goods on the market and of wage increases not covered by output. In order to divert excess money from the market, as from 1 January 1981 the interest rate on personal savings deposits was raised from 3 to 4 per cent, and up to 10 per cent on long-term, deposits—a rate comparable with the 1980 rise in the cost of living. As from 1 January 1982, there was a further increase in the interest rate on personal deposits and a rise to 13–15 per cent on three-to-five year long-term deposits.

In *Romania* in 1976–1979, savings deposits increased annually on average by 18.4 per cent. About 73 per cent of total personal savings were deposited in savings banks.[332]

In the *Soviet Union* in the 1976–1980 period, savings deposits increased by 72 per cent (and by 5.8 per cent in 1981). One of the important reasons for the rapid increase in savings was the changing

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[331] In the Soviet Union, the calorie content of the diet has for several decades remained at the level of approximately 3,000 calories per person per day. Changes planned in the structure of the diet are aimed at ensuring a more rational and balanced combination of protein, fats and carbohydrates.

[332] *Revista economica*, 1980, No. 44.

TABLE 3.5.9

### Per capita consumption of selected goods

(*In kilograms, except for eggs, in units*)

| | *1970* | *1975* | *1980* | *Plan 1985* | *1970* | *1975* | *1980* | *1970* | *1975* | *1980* | *Plan 1985* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Bulgaria* | | | | *Czechoslovakia* | | | *German Democratic Republic* | | | |
| Meat and meat products | 41.4 | 58.0 | 61.2 | 72.0 | 71.9 | 81.1 | 85.0 | 66.1 | 77.8 | 89.4 | . . |
| Fish and fish products | 5.5 | 6.2 | 6.9 | 9.3 | 5.2 | 5.8 | 5.4 | 7.9 | 8.5 | 7.5 | . . |
| Milk and milk products | 116.6 | 142.8 | 169.4 | 201.0 | 203.6 | 218.0 | 230.0[a] | . . | . . | . . | . . |
| *of which:* | | | | | | | | | | | |
| Butter | . . | . . | . . | . . | 7.4 | 7.6 | . . | 11.2 | 10.3 | 10.9 | . . |
| Cereal products | 238.8 | 217.8 | 216.0 | . . | 113.0 | 108.0 | 107.0 | 97.3 | 94.8 | 94.2 | . . |
| Potatoes | . . | . . | . . | . . | 103.4 | 95.8 | 75.0 | 153.5 | 142.1 | 142.1 | . . |
| Vegetables | 88.9 | 90.1 | 93.8 | 136.0 | 76.3 | 73.7 | 68.0 | 84.8 | 90.0 | 96.8 | . . |
| Sugar and sugar products | 32.9 | 32.5 | 34.7 | 37.5 | 37.7 | 38.0 | 38.0 | 34.4 | 36.8 | 40.7 | . . |
| Vegetable fats and oils[b] | 16.2 | 18.7 | 20.8 | . . | 5.8 | 6.7 | 7.3 | 2.2 | 2.0 | 1.7 | . . |
| Eggs | 122.0 | 146.0 | 204.0 | 231.0 | 277.0 | 297.0 | 316.0 | 239.0 | 269.0 | 290.0 | . . |
| | *Hungary* | | | | *Poland* | | | *Romania* | | | |
| Meat and meat products | 58.1 | 68.5 | 70.5 | . . | 53.0 | 70.3 | 74.0 | 31.2 | 45.7 | 62.0 | 68.0 |
| Fish and fish products | 2.3 | 2.7 | 2.8 | . . | 6.3 | 7.2 | 8.1 | 4.7 | 4.7 | 5.9 | 12.4 |
| Milk and milk products | 109.6 | 126.6 | 162.0 | . . | 413.0 | 432.0 | 451.0 | 110.7 | 132.6 | 180.0 | 222.0 |
| *of which:* | | | | | | | | | | | |
| Butter | 2.1 | 1.7 | 2.0 | . . | 6.0 | 7.4 | 8.9 | . . | . . | . . | . . |
| Cereal products | 128.2 | 122.2 | 115.0 | . . | 131.0 | 120.0 | 128.0 | . . | . . | . . | . . |
| Potatoes | 75.1 | 66.8 | 62.0 | . . | 190.0 | 173.0 | 158.0 | . . | . . | . . | . . |
| Vegetables | 155.7 | 159.2 | 164.6[c] | . . | 111.0 | 109.0 | 101.0 | 86.7 | 112.6 | 140.0 | 160–170 |
| Sugar and sugar products[d] | 33.5 | 39.4 | 35.0 | . . | 39.2 | 43.2 | 41.4 | 19.3 | 20.3 | 28.2 | 32.5 |
| Vegetable fats and oils | 2.8 | 4.6 | 6.0 | . . | 6.6 | 7.5 | 7.8 | 14.1 | 17.0 | 17.8 | 20.7 |
| Eggs | 13.7 | 15.2 | 18.0 | . . | 186.0 | 209.0 | 223.0 | 142.0 | 214.0 | 270.0 | 290.0 |
| | *Soviet Union* | | | | *Byelorussian SSR* | | | *Ukrainian SSR* | | | |
| Meat and meat products | 48.0 | 57.0 | 57.0 | | 49.0 | 62.0 | 63.0 | 49.0 | 60.0 | 60.0 | |
| Fish and fish products | 15.4 | 16.8 | 17.0 | | 13.9 | 17.2 | 15.8 | 15.9 | 15.9 | 16.2 | |
| Milk and milk products | 307.0 | 316.0 | 314.0 | | 371.0 | 385.0 | 375.0 | 311.0 | 335.0 | 329.0 | |
| *of which:* | | | | | | | | | | | |
| Butter | . . | . . | . . | | . . | . . | . . | . . | . . | . . | |
| Cereal products | 149.0 | 141.0 | 139.0 | | 144.0 | 141.0 | 141.0 | 155.0 | 151.0 | 149.0 | |
| Potatoes | 130.0 | 120.0 | 112.0 | | 245.0 | 215.0 | 205.0 | 156.0 | 143.0 | 130.0 | |
| Vegetables | 82.0 | 89.0 | 93.0 | | 70.0 | 75.0 | 76.0 | 103.0 | 118.0 | 116.0 | |
| Sugar and sugar products | 38.8 | 40.9 | 42.2 | | 35.1 | 39.5 | 42.6 | 41.4 | 45.4 | 50.4 | |
| Vegetable fats and oils | 6.8 | 7.6 | 8.6 | | 4.6 | 5.7 | 7.0 | 7.4 | 8.5 | 9.2 | |
| Eggs | 159.0 | 216.0 | 238.0 | | 170.0 | 260.0 | 294.0 | 156.0 | 210.0 | 236.0 | |

*Sources:* As for table 3.5.1 and *CMEA Statistical Yearbook 1981*

[a] Without butter.

[b] Including animal fats.

[c] 1979

[d] Sugar only

structure of consumption and expenditure.[333] During the 1981–1985 plan period, special attention will be paid to stabilizing the balance between demand and supply, which will make it possible gradually to reduce that portion of savings resulting from insufficient quantities of consumer goods and services in public demand. The new five-year plan targets stipulate priority growth of supply of goods as compared with growth in the population's monetary income.

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[333] During the years 1966–1979, expenditures on the purchase of electrical goods increased by 220 per cent, of radios by 190 per cent, of chinaware and associated goods by 340 per cent, of furniture by 170 per cent, of rugs 7.5 times and of passenger cars 31 times. At the same time, the money incomes of all categories of the population rose substantially. In 1965, about 4 per cent of the population had a monthly income of 100 or more roubles per family member, whilst in 1980 about one half of the population had attained this figure. (*Economicheskaya Gazeta* No. 35, August 1981).

TABLE 3.5.10

Stocks of consumer durables per thousand inhabitants
*(Physical units)*

| | *1970* | *1975* | *1980* | *1970* | *1975* | *1980* | *1970* | *1975* | *1980* | *Plan 1985* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *Bulgaria* | | | *Czechoslovakia* | | | *German Democratic Republic* | | |
| Refrigerators | 81 | 174 | 233 | 177 | 260 | 305 | 215 | 322 | 423 | |
| Washing machines | 141 | 176 | 217 | 276 | 363 | 411 | 205 | 277 | 328 | |
| Television sets | 120 | 197 | 231 | 234 | 305 | 372 | 276 | 310 | 408 | |
| Radio sets | 176 | 226 | 267 | 444 | 564 | 604 | 351 | 366 | 383 | |
| Motor cars | 17 | 46 | 88 | 57 | 99 | 139 | 60 | 100 | 148 | |
| | | *Hungary* | | | *Poland* | | | *Romania* | | |
| Refrigerators | 103 | 220 | 293 | 70 | 162 | 269 | 54 | 96 | 156 | 192 |
| Washing machines | 179 | 228 | 300 | 185 | 217 | 253 | 46 | 68 | 102 | 155 |
| Television sets | 171 | 226 | 258 | 137 | 205 | 269 | 82 | 145 | 210 | 256 |
| Radio sets | 245 | 240 | 243[a] | 253 | 301 | 465 | 179 | 207 | 251 | 300 |
| Motor cars | 23 | 55 | 85[a] | 15 | 32 | 64 | 6 | 14 | 29 | 44 |
| | | *Soviet Union* | | | *Byelorussian SSR* | | | *Ukrainian SSR* | | |
| Refrigerators | 89 | 178 | 252 | 76 | 170 | 240 | 82 | 170 | 241 | |
| Washing machines | 141 | 189 | 205 | 109 | 147 | 155 | 137 | 187 | 204 | |
| Television sets | 143 | 215 | 249 | 122 | 188 | 212 | 151 | 224 | 250 | |
| Radio sets | 199 | 230 | 250 | 154 | 196 | 218 | 172 | 198 | 224 | |
| Motor cars | .. | .. | .. | .. | .. | .. | .. | .. | .. | |

*Sources:* As for table 3.5.1 and *CMEA Statistical Yearbook 1981.*

[a] 1979.

# 6. FOREIGN TRADE

After ten years of very rapid expansion, some slowing of the growth of trade volume appears to have been anticipated in the five-year plans of the European centrally planned economies for 1975–1980. The actual course of events in the second half of the 1970s produced a rather sharper deceleration than expected, which in 1981 culminated in an absolute contraction. In addition, these years were marked by pronounced changes in the structure of foreign trade and, more broadly, in the impact of the external environment on national economic development possibilities for the countries of the area. Throughout the past 15 years, trade growth has outpaced that of net material product. While this is expected to continue, some further slowing in trade expansion appears to be anticipated in the five-year plans for the 1981–1985 period.

The following section presents a survey of the key features of change in foreign trade during 1975–1980 and in trade expectations and policies embodied in the five-year plans for the period until 1985. In section (ii) the developments of 1980–1981 and the short-term outlook will be discussed, followed by a review of recent trends in east-west economic relations in section (iii).

## (i) Medium-term trends in foreign trade and trade policies

### (a) *Background developments: 1965–1975*

During the two quinquennia from the mid-1960s to the mid-1970s, the foreign trade of the six *east European countries* had expanded at a trend rate of 9–10 per cent per year in real terms, i.e., with increments of 55–60 per cent in trade volume every five years (table 3.6.1). This rate of expansion virtually did not change from the earlier period, when *volume* and *value* change were about equal, through the later period when the onset of international price inflation brought the *value* increment (160 per cent for exports plus imports) to about three times the size of its *volume* counterpart. While imports increased somewhat faster than exports throughout this decade, their orders of magnitude were roughly commensurate in *volume* terms (five-year increments of 59 per cent in import volume as against 55 per cent in export volume on the average for the two sub-periods). However, the price developments in the first half of the 1970s had, on the whole, been disadvantageous for the countries of eastern Europe. In consequence, the excess of imports over exports in *value* terms in 1975 far exceeded that level which would have resulted from the volume trends: in 1970 eastern Europe imported some 2 per cent more than it exported; by 1975 this magnitude had risen to more than 13 per cent at current prices, but probably would not have exceeded 5 per cent at the prices of 1970.

The above summary of trends in 1965–1975 is intended to serve as a background for the review of foreign trade developments in the second half of the 1970s. It indicates that, at the most aggregate level, the trends in the external sector which made possible the export and import volume expansion rates noted above, provided substantial support for the domestic development effort in the countries of eastern Europe until about 1975. These trends in turn, of course, were the outcome of events in a number of spheres ranging from developments in domestic supply capacity, foreign and domestic aggregate demand, relative prices, trade policies abroad and at home, and financing possibilities, which will not be further considered here.[334] At the same time, however, the above summary also suggests that by the mid-1970s some factors were already in operation which, barring a then unexpected future improvement in the terms of trade of the east European countries, would make a continuation of the past trends most unlikely, especially as regards the relation of the export and import volume growth rates. In other words, it was becoming evident that before long external balance considerations would impose an adaptation of national development strategies and domestic economic structure to certain requirements generated by processes of change in the world economy, with all the difficulties which such structural adjustment entails. As will be shown below, even the most aggregate foreign trade data show that a considerable degree of adjustment in economic policies and structures did take place during the latter part of the 1970s, though the result—both with respect to external balance and to the domestic economic tensions analysed elsewhere in this *Survey*—permit some doubt as to whether it was sufficiently far-reaching or efficient. Finally, it should be noted that the above summary of foreign trade trends in the 1966–1975 decade for eastern Europe as a whole masks considerable divergences in experience at the country level, especially between

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[334] For a recent analysis of the relative contribution of these determinants of trade flows in the east-west trade relation, see *Economic Bulletin for Europe*, Vol. 33 No. 4, 1981, Chapter 3.

TABLE 3.6.1

**Eastern Europe and the Soviet Union: foreign trade and national income growth, 1965–1985**
*(Average annual growth rates, in per cent)*

| *Country and indicator* | *1966–1970* | *1971–1975* | *1976–1980* | *Plan 1981–1985* |
|---|---|---|---|---|
| *Bulgaria* | | | | |
| Export volume | 12.6 | 10.0 | 12.8 | 7.0 |
| Import volume | 9.7 | 14.3 | 3.2 | |
| Net material product | 8.7 | 7.8 | 6.1 | 3.7 |
| Export elasticity | 1.4 | 1.3 | 2.1 | 1.9 |
| Import elasticity | 1.1 | 1.8 | 0.5 | |
| *Czechoslovakia* | | | | |
| Export volume | 9.0 | 6.3 | 6.3 | 5.7–6.2 |
| Import volume | 8.0 | 6.5 | 2.9 | |
| Net material product | 6.9 | 5.7 | 3.7 | 2.0–2.6 |
| Export elasticity | 1.3 | 1.1 | 1.7 | 2.6 |
| Import elasticity | 1.2 | 1.1 | 0.8 | |
| *German Democratic Republic* | | | | |
| Export volume | 8.6 | 9.1 | 5.8 | 6.3 |
| Import volume | 12.1 | 7.2 | 5.2 | |
| Net material product | 5.2 | 5.4 | 4.1 | 5.1 |
| Export elasticity | 1.6 | 1.7 | 1.4 | 1.2 |
| Import elasticity | 2.3 | 1.3 | 1.3 | |
| *Hungary* | | | | |
| Export volume | 9.1 | 9.4 | 7.0 | 6.5–6.8 |
| Import volume | 11.1 | 7.3 | 3.9 | 3.4–3.5 |
| Net material product | 6.8 | 6.3 | 3.2 | 2.7–3.1 |
| Export elasticity | 1.3 | 1.5 | 2.1 | 2.3 |
| Import elaticity | 1.6 | 1.2 | 1.2 | 1.2 |
| *Poland* | | | | |
| Export volume | 9.5 | 10.7 | 4.0 | . . |
| Import volume | 9.0 | 15.3 | 1.7 | . . |
| Net material product | 6.0 | 9.8 | 1.2 | . . |
| Export elasticity | 1.6 | 1.1 | 3.3 | . . |
| Import elasticity | 1.5 | 1.6 | 1.4 | . . |
| *Romania* | | | | |
| Export volume[a] | . . | 11.0 | 7.8 | 11.9 |
| Import volume[a] | . . | 8.1 | 8.8 | |
| Net material product | 7.7 | 11.3 | 7.2 | 7.1 |
| Export elasticity | . . | 1.0 | 1.1 | 1.7 |
| Import elasticity | . . | 0.7 | 1.2 | |
| *Eastern Europe* | | | | |
| Export volume[b] | 9.4[c] | 9.2 | 6.7 | . . |
| Import volume[b] | 10.0[c] | 9.6 | 4.0 | |
| Net material product | 6.5 | 7.9 | 3.9 | . . |
| Export elasticity | 1.5[c] | 1.2 | 1.7 | . . |
| Import elaticity | 1.6[c] | 1.2 | 1.0 | |
| *Soviet Union* | | | | |
| Export volume | 9.9 | 5.0 | 4.9 | 4.1 |
| Import volume | 6.4 | 10.4 | 5.9 | |
| Net material product | 7.8 | 5.7 | 4.2 | 3.4 |
| Export elasticity | 1.3 | 0.9 | 1.2 | 1.2 |
| Import elasticity | 0.8 | 2.1 | 1.4 | |

*Sources:* Secretariat of the United Nations Economic Commission for Europe, based on national statistical publications, national economic plans and plan fulfilment reports, and secretariat estimates.

*Note:* Growth rates of net material product for all periods and of foreign trade volume for the first three periods reflect the change between the final years of the current and the preceding period, whereas the 1981–1985 plan growth rates for foreign trade turnover (exports plus imports) in most instances relate to the five-year averages of the plan and the preceding period. Export and import elasticities are the ratios of foreign trade to national income growth rates shown; where plan growth rates are given as a range, these were calculated on the average values.

[a] Secretariat estimates, based on Romanian value data and Hungarian price indices.

[b] National volume data aggregated with 1975 value weights.

[c] Excluding Romania.

the two halves of the decade (see the country data in table 3.6.1). However, with some exceptions—especially the notable slowing of trade volume growth in Czechoslovakia, and the beginning of a reversal of the relationship of export and import volume growth rates in a number of countries—the broad gist of the statement for the region would seem to apply at the country level also.

A similar summary of the trends in the foreign trade of the *Soviet Union* from 1965 to 1975 yields a more varied picture. In the latter part of the 1960s, exports expanded substantially faster than imports in terms of volume (60 per cent as against 37 per cent), but also in terms of value—though to a smaller degree (57 per cent as against 46 per cent). In financial terms, trade was in surplus every year during this period, but the terms of trade movements were slightly unfavourable. In the first half of the 1970s, by contrast, this relationship was reversed, i.e. export expansion substantially lagged behind import growth in volume terms (increments of 28 and 65 per cent, respectively) and, owing to a rapidly rising price trend, also in value terms (increments of 160 and 215 per cent, respectively). The terms of trade began to turn in the Soviet Union's favour in the early 1970s, however, and in spite of the faster expansion of imports, Soviet export revenues and import expenditures remained cumulatively in approximate balance over the quinquennium.

In the case of the Soviet Union, official volume data breaking down total trade into flows within the socialist area and trade with the market economies (developed and developing) are available; these indicate that most of the impetus for the strong expansion of trade volume in the first half of the 1970s stemmed from the opening of east-west economic relationships early in the decade. In volume terms, exports to the market economies rose by 55 per cent in 1971–1975 and imports increased by 116 per cent, i.e. at annual rates of 9 and 17 per cent respectively. A deterioration of Soviet terms of trade in the relationship with the market economies, in combination with the rapid expansion of import volume, resulted in a cumulative deficit amounting to about 5 per cent of export revenues ($2.5 billion) by the end of the period. However, a much more significant imbalance had arisen in the trade with the *developed* market economies ($7.3 billion, or over 20 per cent of export revenues over the period). Most of this, however, was accounted for by developments in the last year of the period, 1975, when Soviet imports expanded especially rapidly while export growth fell off sharply.[335]

Thus, trade trends had been generally favourable to the economy of the Soviet Union during the 1965–1975 decade—especially in its second half—and could be expected to continue to be so in the 1976–1980 period. One element contributing to this outlook for 1976–1980 was the adjustment of the price formation rules in intra-CMEA trade introduced early in 1975. The adoption of a five-year rolling average of world market prices as the base for the annual price-setting negotiations practically assured the Soviet Union, as the major energy supplier of the region, of a sustained improvement in terms of trade in the 55 per cent of its foreign trade conducted with the CMEA countries.

### (b) *Five-year plan targets for 1976–1980*

Against this background, the foreign trade intentions and expectations embodied in the five-year plans for 1976–1980 can be reviewed, together with the actual course of events in the second half of the 1970s. Trade targets—which probably are in most cases minimum expectations expressed in volume terms, though this is usually not precisely specified—are normally formulated in the published plans in terms of the percentage increase of a five-year average of trade turnover (exports plus imports) over the equivalent magnitude for the preceding quinquennium.[336] The targets established by the east European countries showed an average increase in the volume of trade turnover of slightly over 50 per cent (about 8.6 per cent per annum), varying from about 35 per cent (Czechoslovakia) to over 70 per cent (Romania). In most cases the targets implied a slight slowdown from the tempo in the preceding quinquennium. A pronounced deceleration was implied in the five-year target of the Soviet Union, which amounted to a 34 per cent increase, as against the 46 per cent growth experienced in the prior period (see text table in section 3.1(i), p. 127).

In the plans of a number of countries, significantly above-average growth of trade within CMEA was specified, usually in the form of a rising share of trade with CMEA member countries in total trade turnover. If this is taken to refer to trade volume, it would have implied an expectation of a substantial slackening of trade with the rest of the world, but it may also have merely reflected the expected catching up of intra-CMEA trade prices to world market price levels under the new price formation rules noted above.

While separate targets were stated for the growth of exports and imports in only a few countries, it was clear from policy discussions and other aspects of the five-year plans that in the countries of eastern Europe the volume of exports was intended to expand substantially faster than that of imports. This was certainly the case for the relationship in terms of values, since in a number of countries sharp improvements in the balance of trade, or—notably in Poland—the full elimination of the trade deficit by the end of the decade, were made a part of the five-year targets. On the whole this effort focused on the acceleration of export expansion, especially of manufactures. In the planning of industrial production, separate targets for the production of exportables became prominent at this time, as did the institution of various incentive schemes to tie management awards and the availability of funds for industrial expansion—especially of foreign currency allocations—to the achievement of gains in export earnings. Economies in the expansion of import requirements were certainly implied in the emphasis placed on more intensive development patterns and efficiency gains in industrial production in all the five-year plans, and also in the targets for some other sectors (notably agriculture) in a number of countries. But overall, the policy focus appears to have been mainly on export stimulation rather than on import substitution or a curtailment of the economies' import propensity. These characteristics, as will be noted below, appear to differentiate the tenor of the 1976–1980 five-year plans from those for the 1981–1985 period in a number of countries.

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[335] 1975 was a year of poor harvests in the Soviet Union (and a number of other east European countries), thus giving rise to substantial additional import requirements. At the same time, western economic activity—and therefore demand for eastern exports—was at the trough of the post-1973 recession.

[336] It should be noted that a measure of this type can differ significantly from the compound growth rate between end-years of successive periods. While it is possible, on certain standard assumptions, to derive implicit end-year growth rates from the target rates mentioned, it can be argued that this imputes too much precision to the foreign trade targets in the five-year plans, given the relatively large degree of uncertainty involved in planning in this sphere. For this reason the comparisons here and below are made between these five-year average targets and the actual performance between end-years.

### (c) *Actual developments 1976–1980*

The broad trends outlined above were in fact attained in the second half of the 1970s (see table 3.6.1). The main feature of the actual development to be noted here is the dramatic slowing of import growth in most of the *east European countries*: for the group as a whole, the expansion of import volume fell to a rate of 4 per cent annually from the rate of just under 10 per cent which had prevailed in the preceding period. While export growth also slowed, the deceleration here was much less significant—from about 9 to about 7 per cent annually. Some of these changes were associated—and in part causally linked—with the slowing of overall economic growth during the period. However, the elasticity measure for imports (the ratio of the percentage change in import volume to the percentage change in net material product) declined for the region as a whole from a value of 1.6 in the late 1960s to approximately unity in the late 1970s (and much more sharply in a number of individual countries), whereas the corresponding export elasticity increased over the same time span (and especially between the first and second half of the 1970s). These changes can be taken as a rough indicator at the macro-economic level that a substantial degree of structural adjustment took place during the period.[337] The experience of the *Soviet Union* over the same period was rather different. Favourable terms-of-trade trends permitted the continuation of a more rapid expansion of import volume (at 6 per cent annually) than of export volume (5 per cent), so that trade flows continued to provide a net surplus of physical resources, even if not as pronounced as in the preceding period.

While the trade volume information for the period indicates that a considerable amount of adjustment to unfavourable world market changes was accomplished in the *countries of eastern Europe*, data on changes in trade values and the balance of trade show that these adjustments were not sufficient to achieve the desired progress towards an improvement in the overall external economic balance (see table 3.6.2 and the text table below). The trade deficit of the region continued to deteriorate, not only in absolute terms (to a maximum of $6.6 billion in 1978), which might have been merely a consequence of the rising international price scale, but also as a percentage of export earnings. In spite of a reduction in the level of the region's trade deficits to about $5 billion after 1978 (followed by a more decisive improvement in 1981, to be discussed below), the cumulative total for the 1976–1980 period rose to more than 9 per cent of export earnings, as against 7 per cent in 1971–1975.

**Eastern Europe and the Soviet Union: cumulative export/import ratios**
(*Percentages*)

| | *1971–1975* | *1976–1980* |
|---|---|---|
| Eastern Europe | 93.1 | 91.4 |
| Bulgaria | 94.0 | 101.6 |
| Czechoslovakia | 97.3 | 94.1 |
| German Democratic Republic | 94.9 | 89.2 |
| Hungary | 93.9 | 88.8 |
| Poland | 84.0 | 86.9 |
| Romania | 99.7 | 93.2 |
| Soviet Union | 99.8 | 107.8 |

*Source:* As for table 3.6.2.

As in the preceding period, the bulk of the trade imbalances in 1976–1980 stemmed from the relationship with the *developed market economies*. Trends in east-west trade will be discussed in more detail in section (iii) below. A new feature of the second half of the 1970s was the appearance of a substantial imbalance in trade between eastern Europe and the Soviet Union, the main fuel and raw material supplier of the region. This development reflected the deterioration of eastern Europe's terms of trade in these exchanges as the 1973–1975 world market price changes were gradually being introduced into the intra-CMEA trade price system. Though eastern Europe as a group remained in surplus with the *developing economies* over the period, in several countries of the region cumulative deficits arose also in these trade flows (see table 3.6.2).[338]

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[337] Crude elasticity ratios measured from changes between the end-years of somewhat arbitrary sub-periods, such as those shown in table 3.6.1, must, however, be considered very approximate indicators of long-range trends. While the direction of change noted in the text appears incontrovertible, not much significance should be attached to the absolute level of the ratios shown in the table. A similar observation applies to the inter-country differences in the behaviour of the trade volume variables shown in the tables. While these are substantial, they may not be very significant analytically, but may rather derive from differences between the weighting systems (constant price bases) employed in the construction of the official national volume indices, about which not very much is known in most cases. What is significant is that all east European countries but one share in the broad trends noted in the text. In the case of the one exception—Romania—the volume index used is a secretariat estimate based on Romanian value and Hungarian price data, a procedure which may in fact have underestimated the degree of price inflation experienced in Romania's substantial non-socialist trade. This in turn would have resulted in an overstatement of the volume growth rates for the 1976–1980 period.

[338] Notably in Romania, which has always obtained the bulk of its fuel supplies from outside the CMEA area. Large cumulative surpluses were maintained by Bulgaria and Czechoslovakia.

TABLE 3.6.2

## Eastern Europe and the Soviet Union: changes in foreign trade value and trade balances by partner region

| Country and trade partner group[a] | Annual percentage change[b] | | | | | | Trade balance, in billion US dollars[b] | | |
|---|---|---|---|---|---|---|---|---|---|
| | Exports | | | Imports | | | | | |
| | 1976–1980 | 1980 | 1981 | 1976–1980 | 1980 | 1981 | Cumulative 1976–1980 | 1980 | 1981 |
| *Bulgaria* | | | | | | | | | |
| World | 17.3 | 17.2 | 3 | 12.4 | 13.7 | 11 | 0.6 | 0.7 | −0.1 |
| Socialist countries | 14.4 | 11.6 | – | 14.3 | 10.6 | 7 | −0.9 | −0.3 | −0.8 |
| Developed market economies | 30.5 | 28.6 | −11 | 5.4 | 26.0 | 28 | −1.3 | – | −0.7 |
| Developing countries | 22.5 | 39.2 | 32 | 11.2 | 27.3 | 32 | 2.9 | 1.0 | 1.3 |
| *Czechoslovakia* | | | | | | | | | |
| World | 12.3 | 13.1 | – | 10.8 | 6.5 | −3 | −3.7 | −0.2 | 0.2 |
| Socialist countries | 11.7 | 8.8 | 2 | 10.9 | 5.3 | – | −1.6 | −0.3 | −0.1 |
| Developed market economies | 14.4 | 23.6 | −5 | 10.6 | 7.9 | −12 | −3.6 | −0.4 | 0.3 |
| Developing countries | 12.3 | 25.8 | | 10.4 | 17.7 | | 1.4 | 0.5 | |
| *German Democratic Republic* | | | | | | | | | |
| World | 11.4 | 14.9 | 10* | 11.1 | 17.7 | 10* | −8.4 | −1.8 | −2.0* |
| Socialist countries | 10.3 | 8.7 | 12* | 10.1 | 16.3 | 12* | −0.9 | −0.1 | −0.2* |
| Developed market economies | 13.0 | 33.0 | 6* | 12.1 | 16.5 | 7* | −7.3 | −1.6 | −1.8* |
| Developing countries | 20.0 | 29.5 | | 17.8 | 43.9 | | −0.1 | – | |
| *Hungary* | | | | | | | | | |
| World | 7.2 | 8.5 | 1 | 5.1 | 5.7 | – | −4.2 | −0.6 | −0.4 |
| Socialist countries | 1.6 | 3.7 | 7 | – | 0.1 | 1 | – | 0.1 | 0.4 |
| Developed market economies | 17.6 | 14.1 | −11 | 13.3 | 9.8 | 1 | −3.9 | −0.7 | −1.1 |
| Developing countries | 19.6 | 17.0 | −12 | 12.1 | 23.0 | −13 | −0.3 | – | 0.3 |
| *Poland* | | | | | | | | | |
| World | 10.6 | 5.0 | −22 | 8.8 | 8.9 | −20 | −10.6 | −2.1 | −2.0 |
| Socialist countries | 9.1 | −3.7 | −18 | 13.1 | 11.5 | −7 | −1.0 | −1.1 | −2.1 |
| Developed market economies | 12.5 | 16.1 | −33 | 1.6 | 0.7 | −33 | −12.7 | −0.8 | −0.5 |
| Developing countries | 13.4 | 27.7 | −8 | 24.0 | 30.6 | −49 | 0.6 | −0.1 | 0.6 |
| *Romania* | | | | | | | | | |
| World | 17.7 | 24.0 | 11* | 19.8 | 20.9 | −7* | −3.1 | −1.1 | 0.5* |
| Socialist countries | 16.4 | 21.2 | 8* | 16.5 | 12.3 | 1* | 0.3 | 0.3 | 0.2* |
| Developed market economies | 18.0 | 20.4 | 13* | 12.5 | 5.1 | −12* | −1.6 | 0.1 | 0.4* |
| Developing countries | 20.1 | 37.1 | | 41.1 | 60.0 | | −1.9 | −1.5 | |
| *Eastern Europe* | | | | | | | | | |
| World | 12.4 | 13.1 | −1* | 10.9 | 12.2 | −3* | −29.4 | −5.1 | −3.2* |
| Socialist countries | 10.4 | 7.2 | 1* | 10.7 | 10.0 | 3* | −4.1 | −1.4 | −2.2* |
| *of which:* Eastern Europe | 8.6 | 4.2 | −6* | 8.2 | 4.1 | −6* | – | – | – |
| Soviet Union | 11.4 | 8.8 | 4* | 12.0 | 13.1 | 9* | −7.2 | −1.9 | −2.5* |
| Developed market economies | 15.5 | 21.5 | −4* | 8.3 | 8.5 | −11* | −28.0 | −3.5 | −1.0* |
| Developing countries | 17.7 | 30.6 | | 24.3 | 41.4 | | 2.7 | −0.2 | |
| *Soviet Union* | | | | | | | | | |
| World | 18.1 | 18.2 | 4 | 13.2 | 18.6 | 7 | 19.9 | 8.0 | 6.2 |
| Socialist countries | 15.5 | 15.0 | 5 | 13.5 | 11.4 | 2 | 13.5 | 5.0 | 6.2 |
| Developed market economies | 23.6 | 28.1 | −2 | 12.5 | 19.9 | 4 | −9.7 | 0.2 | −1.2 |
| Developing countries | 18.2 | 10.3 | 14 | 13.6 | 61.3 | 38 | 16.1 | 2.7 | 1.2 |

*Source:* Secretariat of the United Nations Economic Commission for Europe, based on national foreign trade statistics. Figures for 1981 are in most cases secretariat estimates based on national trade data for the first 9–11 months, supplemented by trade partner statistics and trend analysis; these may be subject to substantial error margins and should therefore be considered first approximations only.

[a] The partner country grouping follows the practice of the national statistical sources, which differs from the breakdown usually employed in United Nations publications. Thus, "socialist countries" includes Yugoslavia and Cuba, in addition to the east European countries, the Soviet Union and the Asian centrally planned economies. "Eastern Europe" refers to the six east European country members of the CMEA shown separately in the table.

[b] Growth rates and trade balances are calculated from trade values in national foreign trade accounting units converted to dollars at the conversion coefficients used for statistical purposes in national practice. In most – but not all – cases these are time-weighted averages of the official "basic" exchange rate against the dollar, as announced by national banks or other authorities.

In the case of the *Soviet Union*, by contrast, the financial counterpart of the real trends discussed earlier was a movement from approximate balance in 1971–1975 to a substantial cumulative surplus equal to almost 8 per cent of export earnings in 1976–1980. While trade with the developed market economies remained in cumulative deficit over the period, the absolute level of the annual deficits showed a downward trend (and a surplus was recorded in 1980); in all other directions, surpluses rose sharply (table 3.6.2).

In value terms, *changes in the main directions of trade* over the period differed substantially, growth rates being in general rather higher in trade with developed and developing market economies than in trade with the centrally planned economies both for eastern Europe and the Soviet Union (see table 3.6.2). However, because of the very large differences in the pace and time pattern of price changes on the world market and in intra-CMEA trade (which makes up the bulk of trade with centrally planned economies for the countries of eastern Europe and the Soviet Union), these differences in the growth rates of current value by direction of trade are not of much interest analytically. In particular they do not permit inferences about shifts in real trade patterns. A similar statement applies to data on changes in the commodity structure of trade in current value terms, owing to the substantial difference in the commodity composition of trade in different directions.

In order to throw some additional light on the real changes in the directions and commodity patterns of trade during the second half of the 1970s, the secretariat has constructed estimates of the growth of trade volume in five commodity groups (machinery and equipment, fuels and energy, raw materials and semi-finished products, foodstuffs, and manufactured consumer goods) for the two major trading areas (socialist countries, developed and developing market economies) which are usually distinguished in the trade statistics of the eastern countries. These estimates were obtained by deflating national value data on exports and imports in the two trading directions and five commodity classes with the aid of price or unit value indices obtained primarily from Hungarian statistics, supplemented with Polish and UN price data. The resulting estimates of commodity volumes were aggregated into country and regional totals in terms of their value at 1975 prices and exchange rates.[339]

Preliminary results of this study are shown in table 3.6.3 (volume, price and terms of trade change in total trade and by major trading area, for eastern Europe and the Soviet Union separately) and table 3.6.4 (changes in the commodity structure of trade by major trading area). A few of the key features of these results and their implications are discussed below.

Three aspects of the data in table 3.6.3 are worth noting. First, it appears that, contrary to some expectations at the time of the formulation of the five-year plans for the period, trade with developed and developing market economies continued to expand somewhat faster than trade among centrally planned economies also in volume terms. This is in particular the case for the *exports* of the east European countries, which show a growth in volume of about 4 per cent per annum in trade with other socialist countries and 6 per cent in trade with the rest of the world; on the other hand, their *imports* from each of these trading areas grew by less than 3 per cent annually. The trade of the Soviet Union (both exports and imports) with socialist countries increased by about 4 per cent annually, compared to a growth of about 5 per cent in trade with the rest of the world. The trend towards a greater real integration of the two parts of the world economy thus continued to the end of the 1970s.

Second, the data confirm the significant deterioration in the terms of trade of the east European countries and a sharp improvement in those of the Soviet Union, in addition to providing some detail on the regional structure of these changes. In the case of *eastern Europe*, the downturn in the terms of trade during the period was confined to its trade with other socialist countries (and almost certainly focused on trade with the Soviet Union as the region's main energy and raw material supplier), but the small improvement (4 per cent) in the terms of trade with the rest of the world shown here has to be interpreted in the light of the starting year, which was just after the completion of the first big price shift on the world market.[340] In the case of the *Soviet Union*, the terms of trade improved in both trading directions, but much more markedly in trade with the non-socialist countries. The large difference between the two measures (though not its precise numerical value) can be taken as an indication of the high economic opportunity cost to the Soviet Union of the lagged adjustment of intra-CMEA trade prices to the world market price structure.

Finally, the data in table 3.6.3 also indicate a significant slowing of import volume growth after 1978. As is noted elsewhere in this *Survey*, at about that time substantial policy re-orientations to redress sharpening domestic imbalances and to counter deteriorating external conditions were instituted in most countries of the region.

The following aspects of the evolution of the commodity structure of trade deserve particular attention (see table 3.6.4). First, the trends in trade in *machinery and equipment*. This category is the focal point of the development ambitions of the countries of the region and of their regional integration and plan co-ordination efforts in CMEA. Because of its significance for the transfer of technology and modernization, it is also a core element of east-west trade interests. Trends between the two market areas in this commodity category diverged substantially. In trade among socialist countries—especially in east

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[339] The resulting physical volume indices for the total exports and imports and the trade flows in the two trading directions can be expected to differ from the corresponding national data of any given country for a number of reasons, of which two are probably the most important: (*a*) differences in the base year selected for the choice of price weights; this can produce significant differences in a period of rapidly changing relative prices—e.g. the selection of 1980 prices instead of 1975 prices would probably reduce the growth rate of most volume indices significantly owing to the high weight attached to the slow-moving energy and fuels component; (*b*) non-representativeness of the price index used to deflate any given commodity category owing to a divergent intra-category composition of the country's trade. A direct comparison with national volume indices—which in most cases exist only at the level of total trade—is made difficult by the lack of information on the price weights employed.

[340] Eastern Europe's terms of trade with the developed and developing market economies had deteriorated some 20–25 per cent between 1970 and 1975. It should also be noted that the terms of trade measures shown here are calculated on *unit value* indices which, in contrast to true price indices, reflect changes in the commodity pattern of trade in addition to price changes.

TABLE 3.6.3

**Eastern Europe and the Soviet Union: change in foreign trade value, volume, unit values and terms of trade, by major partner regions**

| | *Exports* | | | | | *Imports* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *Percentage change from preceding year* | | | | | *Percentage change from preceding year* | | | |
| | *Index 1980 (1975 = 100)* | *1978* | *1979* | *1980* | *1981* | *Index 1980 (1975 = 100)* | *1978* | *1979* | *1980* | *1981* |
| EASTERN EUROPE | | | | | | | | | | |
| *Total trade* | | | | | | | | | | |
| Value[a] | 179 | 12.8 | 17.1 | 13.1 | −1 | 168 | 12.1 | 13.1 | 12.2 | −3 |
| Volume | 138 | 6 | 8 | 4 | −2 | 122 | 5 | 2 | 1 | −6 |
| Unit values[a] | 130 | 6 | 9 | 9 | 1 | 138 | 7 | 11 | 11 | 3 |
| Terms of trade | 94 | — | −2 | −2 | −2 | . . | . . | . . | . . | . . |
| *of which:* | | | | | | | | | | |
| *Trade with socialist countries* | | | | | | | | | | |
| Value[b] | 165 | 9.0 | 10.8 | 6.2 | 7 | 167 | 9.6 | 7.5 | 8.8 | 9 |
| Volume | 122 | 3 | 7 | −1 | −2 | 114 | 2 | 2 | 1 | −3 |
| Unit values[b] | 135 | 6 | 4 | 8 | 9 | 147 | 8 | 6 | 8 | 13 |
| Terms of trade | 92 | −2 | −2 | — | −4 | . . | . . | . . | . . | . . |
| *Trade with developed market economies and developing countries* | | | | | | | | | | |
| Value[a] | 211 | 12.4 | 25.2 | 24.0 | −4 | 172 | 10.6 | 18.5 | 15.6 | −11 |
| Volume | 134 | 6 | 3 | 8 | −3 | 114 | 2 | −1 | 1 | −9 |
| Unit values[a] | 158 | 6 | 22 | 14 | −2 | 151 | 8 | 19 | 14 | −2 |
| Terms of trade | 104 | −2 | 2 | — | — | . . | . . | | . . | . . |
| SOVIET UNION | | | | | | | | | | |
| *Total trade* | | | | | | | | | | |
| Value[a] | 230 | 15.9 | 23.5 | 18.2 | 4 | 186 | 24.1 | 13.9 | 18.6 | 7 |
| Volume | 127 | 4 | 1 | 2 | −3 | 133 | 14 | 2 | 7 | 10 |
| Unit values[a] | 181 | 12 | 22 | 16 | 6 | 140 | 9 | 12 | 11 | −2 |
| Terms of trade | 130 | 2 | 9 | 5 | 9 | . . | . . | . . | . . | . . |
| *of which:* | | | | | | | | | | |
| *Trade with socialist countries* | | | | | | | | | | |
| Value[b] | 184 | 11.3 | 11.2 | 13.9 | 16 | 169 | 20.8 | 3.4 | 10.3 | 13 |
| Volume | 120 | 2 | 4 | 2 | 1 | 120 | 16 | −1 | 3 | 4 |
| Unit values[b] | 153 | 9 | 7 | 11 | 15 | 140 | 4 | 4 | 7 | 9 |
| Terms of trade | 109 | 5 | 3 | 4 | 6 | . . | . . | . . | . . | . . |
| *Trade with developed market economies and developing countries* | | | | | | | | | | |
| Value[a] | 268 | 10.1 | 35.4 | 22.2 | 3 | 182 | 15.5 | 23.6 | 27.9 | 12 |
| Volume | 129 | 4 | 1 | −8 | −8 | 127 | 7 | 7 | 15 | 13 |
| Unit values[a] | 207 | 6 | 34 | 33 | 12 | 144 | 8 | 15 | 11 | −1 |
| Terms of trade | 144 | −2 | 20 | 21 | 13 | . . | . . | . . | . . | . . |

*Source:* As for tables 3.6.1 and 3.6.2.

*Note:* Total value and unit value changes for total trade and for trade with the market economies are expressed in terms of US dollars, whereas value and unit value changes in trade with socialist countries reflect value measured in transferable roubles. *Volume* indices for total trade are taken from national statistics; these have been aggregated for eastern Europe with weights reflecting the individual countries' shares in the total trade of the region in 1975, measured in US dollars. Volume indices for trade with socialist countries and with market economies were obtained by deflating national data (supplemented by secretariat estimates) on the value of trade in five major commodity groups in the two markets by Hungarian and UN price indices (see also note to table 3.6.4). This exercise was conducted in terms of transferable roubles for trade with socialist countries and in US dollars for trade with market economies: deflated commodity group data were aggregated for each country and for eastern Europe in terms of their value in 1975 transferable roubles or US dollars, respectively. All *unit value* and *terms-of-trade* indices were derived from the value and volume figures. Apparent inconsistencies between the four indicators for any given year reflects separate rounding after calculation from unrounded numbers. All figures for 1981 are secretariat estimates

[a] In terms of US dollars.

[b] In terms of transferable roubles.

European exports and in Soviet imports—the volume of machinery rose at strongly above-average rates and increased its share in the total (to over 55 per cent in the case of east European exports). The pace of growth was even more rapid (at a remarkable 9 per cent per annum) in east European exports to the market economies. Since the growth of imports in this commodity group registered in the trade data of *developed* market economies has been quite modest in recent years, this must reflect mainly exports to *developing* countries. Machinery imports from the market economies, on the other hand, were, by the

### TABLE 3.6.4

### Eastern Europe and the Soviet Union: changes in the commodity structure of foreign trade, by major regions

*(Average annual growth rates and shares, in per cent)*

| | *Trade with socialist countries* | | | | *Trade with market economies* | | | |
|---|---|---|---|---|---|---|---|---|
| | | *Share in total* | | | | *Share in total* | | |
| | | | *1980* | | | | *1980* | |
| | | | *Prices of:* | | | | *Prices of:* | |
| *Country group and commodity category* | *Volume growth rate 1976–1980* | *1975* | *1975* | *1980* | *Volume growth rate 1976–1980* | *1975* | *1975* | *1980* |
| EASTERN EUROPE | | | | | | | | |
| *Exports* | | | | | | | | |
| Machinery and equipment | 5.8 | 50 | 54 | 56 | 9.1 | 19 | 22 | 21 |
| Fuels and energy | −7.0 | 7 | 4 | 6 | −0.1 | 18 | 13 | 18 |
| Raw materials and semi-finished products | 1.3 | 17 | 15 | 14 | 6.1 | 27 | 28 | 28 |
| Foodstuffs | 4.3 | 11 | 11 | 10 | 3.1 | 19 | 16 | 19 |
| Consumer goods | 5.2 | 15 | 16 | 14 | 10.0 | 17 | 21 | 19 |
| Total | 4.0 | 100 | 100 | 100 | 6.0 | 100 | 100 | 100 |
| *Imports* | | | | | | | | |
| Machinery and equipment | 2.9 | 37 | 37 | 37 | −0.7 | 29 | 24 | 23 |
| Fuels and energy | 2.1 | 21 | 21 | 27 | 10.1 | 8 | 12 | 17 |
| Raw materials and semi-finished products | 3.0 | 28 | 28 | 24 | 1.1 | 46 | 42 | 41 |
| Foodstuffs | −0.3 | 7 | 6 | 6 | 6.9 | 12 | 15 | 13 |
| Consumer goods | 3.2 | 7 | 8 | 6 | 7.4 | 5 | 7 | 6 |
| Total | 2.6 | 100 | 100 | 100 | 2.6 | 100 | 100 | 100 |
| SOVIET UNION | | | | | | | | |
| *Exports* | | | | | | | | |
| Machinery and equipment | 5.4 | 24 | 26 | 23 | 5.1 | 11 | 11 | 8 |
| Fuels and energy | 8.0 | 26 | 32 | 40 | 7.5 | 40 | 44 | 55 |
| Raw materials and semi-finished products | 0.2 | 31 | 26 | 22 | 3.4 | 19 | 18 | 14 |
| Foodstuffs | −10.6 | 5 | 3 | 2 | −6.4 | 3 | 2 | 1 |
| Consumer goods | 4.2 | 3 | 3 | 3 | 9.2 | 3 | 3 | 2 |
| Unspecified | 3.1 | 11 | 10 | 10 | 3.6 | 24 | 22 | 20 |
| Total | 3.7 | 100 | 100 | 100 | 5.2 | 100 | 100 | 100 |
| *Imports* | | | | | | | | |
| Machinery and equipment | 5.7 | 39 | 43 | 44 | −0.3 | 29 | 22 | 23 |
| Fuels and energy | −12.9 | 3 | 1 | 2 | −5.1 | 5 | 3 | 5 |
| Raw materials and semi-finished products | 3.7 | 11 | 11 | 10 | 5.1 | 31 | 32 | 31 |
| Foodstuffs | 1.6 | 21 | 19 | 18 | 10.1 | 25 | 32 | 31 |
| Consumer goods | 2.3 | 19 | 18 | 18 | 6.7 | 6 | 6 | 5 |
| Unspecified | 7.0 | 7 | 8 | 8 | 9.7 | 4 | 5 | 5 |
| Total | 3.8 | 100 | 100 | 100 | 5.0 | 100 | 100 | 100 |

*Source:* Secretariat of the United Nations Economic Commission for Europe, based on national statistics on the commodity structure of foreign trade at current prices and on Hungarian and Polish data on foreign trade prices.

*Note:* The volume growth rate for 1976–1980 and the commodity structure in 1980 at 1975 prices are secretariat estimates obtained by deflating national data on trade in each commodity category and trade direction with the aid of rouble and non-rouble trading area price statistics for Hungary, supplemented by similar Polish data and, for the deflation of Soviet exports of fuels and energy to market economies, an index of unit values for EEC country imports in this commodity class (UN *Monthly Bulletin of Statistics*, March 1981, table E). See also note to table 3.6.3.

end of the period, slightly below their 1975 levels in volume terms both in eastern Europe and in the Soviet Union. Inspection of the underlying annual and country data shows that this reflects rather different trends over the intermediate period. In the Soviet Union it was the result of sharp contraction in 1979 and 1980 after an unspectacular but steady increase in the preceding years, which is almost certainly connected with the substantial slowing of investment growth after 1978. In contrast, in eastern Europe an overall stagnation from the beginning of the period occurred which, however, was caused entirely by a steady decline in Polish imports (if Poland is excluded, machinery import volume increases at almost 6 per cent annually over the period).

Second, the continuing substantial real growth of imports of *fuels and energy* into eastern Europe should be noted. The volume of the region's total imports from all sources in this category appears to have risen at an annual rate of nearly 4 per cent, or at almost the rate of growth of net material product. Since the volume of fuel and energy exports of the region declined over the same period, the net import volume of fuels and energy rose even more substantially—at an annual rate approaching 12 per cent.[341] Against the background of the relatively very high energy intensity of production in the region, these figures shed an important light on the difficulties of the adjustment problems now faced by most of these countries and addressed in their medium- and short-term plans for the coming years.

The third feature to be noted in this review of the commodity composition of trade is the rapid rise in the volume of *foodstuffs* imports from outside the region in both Soviet and east European trade. These are largely imports of fodder grains necessitated by a succession of several poor harvests at a time when livestock herds had been greatly expanded in an effort to improve the national diets. In the case of eastern Europe, this development has turned the region into a net importer of foodstuffs from the market economies since 1976 (although overall it is still in a net export position), a fact which in a number of countries is considered to impose an unnecessary burden on the balance of payments in convertible currencies. One of the focal points of the five-year plans for 1981–1985 is therefore a sharp improvement of the fodder supply balance.

### (d) *Five-year plans 1981–1985*

The expectations for the development of foreign trade volume and the underlying strategies to shape the future course of these flows embodied in the *five-year plans for 1981–1985* reflect the experience of the last five years outlined above. Since in most countries of the region the medium-term strategies were put into final form only in the closing months of 1981, the difficulties and imbalances emerging during the closing years of the decade, and even more recently, appear to have been given much weight (see the country summaries in chapter 3.1(ii) above). A broad synthesis of the apparent implications of these national targets for foreign trade at the regional level is attempted in the following paragraphs.

An important caution is necessary regarding the limitations of conclusions—especially quantified conclusions—based on a reading of the plans in this field. In the first place, the direct information on plan targets is relatively much more sparse than that on targets for other areas of economic activity. But more importantly, the nature of the published targets is not fully evident. In this field, where outcomes depend, to a much larger degree than in other areas, on events outside the control of national decision-makers, the difference between minimum requirements, reasonably certain achievements and desired or optimal outcomes can be very large indeed. In most cases there is no way of knowing which definition underlies the published target figures. In fact, practices in this respect probably vary substantially between countries. While broad qualitative directions of strategy can indeed be derived reliably from the plans, all quantitative statements below should be read in this light.

Quantitative goals stated in the published five-year plans for 1981–1985 are on the whole confined to targets for the rate of increase of *trade turnover* (exports plus imports). A comparison of these stated goals for 1981–1985 with the goals for the preceding plan period on the one hand and with the actual performance during this period on the other leads to the conclusion that some further slowing of trade volume growth is expected.[342] Presumably, this expectation is based on the analysis of the anticipated development of domestic supply capacity and requirements on the one hand, and of projected trends in foreign demand and trade policies abroad on the other hand—though, as noted above, not very much is known about the mix of considerations entering into this result.

For the countries of eastern Europe jointly, the expected deceleration is not large—from a 40 per cent increase in the five-year average turnover in volume terms (annual growth rate of 7 per cent) to an estimated combined increase of about 35–37 per cent (annual growth rate somewhat above 6 per cent). In the case of the Soviet Union, the slowdown is much more substantial: from a 32 per cent increase (annual rate of almost 6 per cent) to a 22 per cent increase (annual rate of about 4 per cent). The precise figures are not very important, since trade turnover is in itself not an analytically very interesting magnitude, but what does matter is that with the exception of Romania and—only marginally—Czechoslovakia, all countries of the region appear to share a "bearish" outlook for the development of trade flows in the first half of the 1980s. The causes for this will vary from country to country, reflecting a mixture of purely domestic factors, external adjustment (balance-of-payments) pressures, strategic decisions and analysis of the external outlook. However, it is difficult to evaluate this expected deceleration of the turnover aggregate in the absence of information on the contribution of planned export and import flows. It may be noted, nevertheless, that in no country does the planned or expected deceleration involve a "withdrawal" from trade in the sense that the share of foreign trade in national income is expected to decline. The elasticity coefficient, which measures the relation between trade and national income growth, remains well above unity in all cases (see table 3.6.1).[343]

In addition to the turnover target, the five-year plans of a number of countries—or the policy explanations accompanying them—contain specific targets for the share of the socialist countries in total trade turnover by 1985; in all cases a significant increase in this share is indicated. In the case of the Soviet Union, for instance, this share is to be raised from 54 per cent in 1980 to 58 per cent in 1985.[344] In combination with the planned increase in total turnover of 22.5 per cent, this implies that trade with the socialist countries is to increase by some 32 per cent (as against a 30 per cent increase over the preceding five years), and—residually—that trade with developed and developing market economies is to rise by only 12 per cent (as against 29 per cent in 1976–1980). In other words and in terms of annual rates, the pace of volume growth in trade with socialist countries is to accelerate slightly, from just over 5 per cent to almost 6 per cent, whereas in trade with the market economies the pace is expected to decelerate from over 5 per cent to about 2 per cent. Similar implications can be derived also from the trade target statements of a number of east European countries. Together they would add up to the conclusion that a very sharp deceleration in the growth of east-west and east-south trade is implicit in the current set of five-year plans. Moreover, since most east European countries—though not the Soviet Union—explicitly intend to favour the expansion of *exports* over import growth, the above conclusions derived from statements about *turnover* targets would apply even more strongly to the outlook for eastern *imports* from the market economies.

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[341] The above estimates, incidentally, are not much affected by the decline in Polish coal exports which began in 1980 (the growth rate of the volume of net energy imports for 1975–1979 was 11.6 per cent annually). Very similar growth rates can be obtained from the data on physical volumes of fuel trade in United Nations, *Yearbook of World Energy Statistics 1979*, New York, 1981.

[342] See the text table in section 3.1(i), p. 127 and table 3.6.1.

[343] Among the six countries for which this information can be derived, the elasticity coefficient for trade turnover shows an increase in three (Bulgaria, Czechoslovakia and Romania), implying accelerated growth of the trade share in national income during the plan period, and a decline in the remaining three (the German Democratic Republic, Hungary and the Soviet Union).

This is perhaps as far as the formal analysis of the quantitative information in the five-year plans should be taken. Additional considerations of a more qualitative nature can be mentioned. In part these will throw doubt on the conclusions reached above, while other parts will reinforce them.

To begin with, targets for intra-socialist trade are the firmest element in the planners' calculations. These are based on relatively concrete undertakings for the growth of mutual deliveries contained in the five-year trade agreements (largely concluded in the course of 1981), the bilateral long-term programmes for specialization and co-operation in production between the Soviet Union and the east European countries, and the important body of multilateral target programmes, together with the corresponding implementation measures, which were arranged in 1980 and 1981 under the auspices of CMEA. They therefore constitute a component of the medium-term projections which can be entered into the plan balances without large safety margins. The planners' projections of trade flows with the rest of the world, on the other hand, must be considered to comprise a substantial probability component, and it is possible that these are included in the balances at the lowest levels which can be expected to be attained with certainty. This would not necessarily imply that they are to be restrained to these levels if it should appear feasible in the course of the implementation of the plan to enlarge these flows. This interpretation may be backed by the observation, already noted earlier (see sections 3.1(ii) and 3.1(iii)), that the national plans of all countries of the region in one form or another avow the intention to expand and diversify trade with the developing countries and to develop further the relations with developed market economies on the basis of equality and mutual benefit.

On the other hand, however, the conclusion that sharply lower rates of trade growth in volume terms are part of the overall intentions in the east European countries—especially as regards imports, and with a particular impact on imports from the market economies—is supported both by the macro-economic thrust and the sectoral detail of the development plans of most of these countries.

With regard to the first, the sharp curtailment or virtual cessation of investment growth in all countries (which with the inclusion of Poland probably amounts to an absolute contraction for the region as a whole) has obvious implications for foreign trade. Because of the substantial import component of investment, this in itself is bound to have an unambiguously negative effect on the growth of trade flows.

Some of the sectoral aspects have been discussed in earlier parts of this *Survey*; their overall impact should be a relative reduction of the weight of the more import-intensive lines of activity in overall production, as part of the effort at structural adjustment. Against a background of slowing growth, this also should have a net effect of reducing import growth.[345]

A final element to be mentioned might be called the micro-economic thrust of the plans: the strong stress on obtaining more output per unit of input, which is often specifically directed most strongly at imported inputs. In some countries (notably in Czechoslovakia) this is explicitly termed an "anti-import" policy and is backed by new measures, including currency control measures, designed to contain what is considered an excessive import propensity of production activity.[346] In a more general way, the effort to achieve improved micro-economic efficiency has in most countries been supported by industrial price reforms, which in most instances tend to make imported inputs—and not only the energy inputs—relatively more expensive.

### (ii) Current developments in foreign trade

Export volume growth slowed significantly in the European centrally planned economies in 1980, a slackening which was followed by an absolute decline of about 3 per cent in 1981. Import volume changes of the region—a 4 per cent rise in 1980

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[344] Deputy Prime Minister K. Baibakov in his statement introducing the draft law on the five-year plan to the USSR Supreme Soviet (*Pravda*, 18 November 1981). The figure for the total turnover increase, which is not specified in the text of the plan law, was given in the same speech.

[345] In some cases (notably in the five-year plan of the German Democratic Republic) this restructuring effort is explicitly directed at the diversion of trade from non-socialist to socialist sources of supply.

[346] That in Czechoslovakia's position as a country with a dominant secondary (processing) industrial sector this should not be interpreted as a policy of withdrawal into autarky or even a lessening of trade intensity was strongly avowed by Deputy Foreign Trade Minister J. Jakubec in a recent statement (*Hospodářské Noviny*, 1982, No. 3).

**Eastern Europe and the Soviet Union: changes in foreign trade value and volume**
(*Annual growth rates in percentage*)

| | *Value* | | | | *Volume* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *1980* | | *1981* | | *1980* | | *Plan 1981 turnover* | *1981* | | *Plan 1982 turnover* |
| | *Exports* | *Imports* | *Exports* | *Imports* | *Exports* | *Imports* | | *Exports* | *Imports* | |
| *Eastern Europe* | 13.1 | 12.2 | −1 | −3 | 4 | 1 | . . | −2 | −6 | . . |
| Bulgaria | 17.2 | 13.7 | 3 | 11 | 12 | 4 | 8.3 | . . | . . | 8.0 |
| Czechoslovakia | 13.1 | 6.5 | – | −3 | 5 | −2 | . . | . . | . . | . . |
| German Democratic Republic | 14.9 | 17.7 | 10 | 10 | 3 | 4 | 16.0 | . . | . . | 15.0 |
| Hungary | 8.5 | 5.7 | 1 | – | 1 | −1 | –[a] | . . | . . | –[b] |
| Poland | 5.0 | 8.9 | −22 | −20 | −4 | −2 | –[c] | . . | . . | . . |
| Romania | 24.0 | 20.9 | 11 | −7 | 12* | 5* | –[d] | . . | . . | 14.0 |
| *Soviet Union* | 18.2 | 18.6 | 4 | 7 | 2 | 7 | . . | −3 | 10 | . . |

*Sources:* As for tables 3.6.2 and 3.6.3.

*Note:* Value changes are measured in terms of US dollars.

[a] Exports 7–8 per cent.

[b] Exports 6–8 per cent, imports 2–3 per cent.

[c] Exports unchanged, imports −3 per cent.

[d] Exports 21 per cent, imports 1 per cent.

which slowed to a 2 per cent increase in 1981—resulted from contrasting trends in the Soviet Union, where import volume expanded at a substantial pace in 1980 and accelerated even more in 1981, and in the east European countries, where a pronounced deceleration in 1980 was followed by an absolute decline in the following year. As the discussion of medium-term trends has already shown, domestic structure and the impact of external developments differ so much between the Soviet Union on the one hand and the eastern European countries on the other that a discussion in terms of overall regional aggregates makes little economic sense. Their recent trade experience will therefore be reviewed separately.

The countries of *eastern Europe* have fully shared in the downturn of world trade in the last two years (a slowing of world export expansion from 8 per cent in 1979 to 2 per cent in 1980, followed by a 3 per cent decline in 1981). After a long period of steady expansion at rates fluctuating between 6 and 8 per cent, export volume growth of the area had dropped to 4 per cent in 1980, and turned into an absolute decline, estimated at 2 per cent, in 1981 (see text table above and table 3.6.3 for additional detail).[347] Import volume, the expansion of which had been decreasing for a longer period, as noted earlier, but which had still been growing at 1–2 per cent for the group in the preceding two years, declined by a full 6 per cent in 1981.

Information on national intentions or expectations in the area of foreign trade is generally rather spare. From what data are available, it appears that import expansion was in most cases to be held below export growth as part of the external adjustment effort, but that overall some increase was still expected. Broadly speaking it would thus seem that the decline in export earnings reduced the import capacity of the region and forced sharper import restraints than had been anticipated. This would have been consistent with the intention in all countries to hold down or reverse the growth of external debt. However, some other causal chains are also reflected in the aggregate results for the region. The sharp reduction in the production of exportables—notably coal—in Poland reduced export volume from the supply side, and this may have also had repercussions on the supply capacity of some neighbouring countries for which Poland is an important supplier of production inputs. In intra-area trade, the drop of supplies from Poland appears to have resulted in nearly corresponding cutbacks in counter-deliveries, a decline in one set of bilateral flows which does not appear to have been offset to any significant degree by an intensification of the remaining bilateral relations within eastern Europe, and thus had a downward effect on the overall results.

In view of the extreme changes in the foreign trade of Poland, it may be worth asking to what extent these affect the results for eastern Europe as a whole. Rough estimates show that without Poland, export volume growth of the group declines from 8 per cent in 1979 to 5–6 per cent in 1980 and 2–3 per cent in 1981, while import behaviour in the same years shows changes of 3 per cent, 1–2 per cent, and *minus* 1–2 per cent, respectively. In other words, the trend is roughly the same, if slightly less steep, with the one significant change that in the aggregate the remaining countries of eastern Europe still appear to have attained a small increase in export volume in 1981.

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[347] This review will be conducted in terms of *volume* changes wherever this is feasible, even though this involves a substantial amount of estimation in the case of data for the last year. Data on changes in trade *values* are shown in the tables for reference purposes. For the sake of comparability with other value data in this *Survey* and other international data sources, these reflect values measured in US dollars even for trade flows largely conducted in other currencies (e.g. intra-CMEA trade). In consequence, value changes will differ from those shown in national sources. (For an explanation of exchange rates used, see note to table 3.6.2). Owing to the strong appreciation of the dollar against other currencies in 1981, the change in the year-to-year variations of trade value measured in dollars is so different from those observed in earlier years, and so differently related to the changes in trade volume, as not to be very helpful for the comprehension of real trends. The exchange rate changes also pose analytical problems in a number of other spheres—in particular, as will be noted below and elsewhere in this *Survey*, in the interpretation of changes in stocks—e.g. the value of debt outstanding—and their relationship to the corresponding flows—e.g. new borrowing. They also may distort the meaning of the behaviour of trade balances, which are usually not reduced to volume equivalents.

The foreign trade developments in the *Soviet Union*, as noted above, followed a somewhat different path in the last two years. The growth of Soviet export volume had been slowing for several years from the high rates reached in the middle of the 1970s; a low rate of 1–2 per cent in 1979 and 1980 (which was significantly below the roughly 3 per cent growth rate of aggregate production) turned into a decline, estimated at about 3 per cent, in 1981. As will be noted from table 3.6.3, while export growth slowed also in trade with the socialist countries, the downturn in overall export volume stemmed from a much sharper contraction (8 per cent in both of the last two years) of exports to the developed and developing market economies. In view of the preponderant share of fuels and energy in the latter trade flows (55 per cent of the total in 1980, and over 65 per cent of exports to developed market economies; see table 3.6.4), the bulk of the reduction must have been accounted for by a decline in the volume of exports in this commodity group,[348] which faced increasingly weak markets over the last two years.

Soviet imports, on the other hand, increased by an estimated 11 per cent in volume in 1981, thus continuing the acceleration (7 per cent) noted in 1980. Swings in Soviet import volume are typically very wide: expansion has gone from 1 per cent to 15 per cent in successive years several times in the last decade in a sequence which is broadly correlated with harvest results and foodstuff—in particular fodder grain—import requirements, although other factors also affect the variations, such as, e.g. the starting-up of major investment projects with a high import content. In 1981, additional foodstuffs imports account for a very significant part of the upswing, but nonetheless probably not much more than one half of the total.[349] Therefore, a very substantial increase in import volume remains to be explained.

Estimates suggest that most of the growth in import volume over the last two years originated in trade with the developed and developing market economies (see table 3.6.3). The expansion of imports from the socialist countries has been relatively low in recent years. To a large part this reflects the onset and course of the economic crisis in Poland, since imports from that country have been declining in volume terms since 1979, but the expansion of import volume from the other east European countries has also not been notably dynamic, especially considering the substantial improvement in the Soviet terms of trade over the period.

The developments in the trade volume of eastern Europe and the Soviet Union during the most recent years have been accompanied by a continuation of the *terms-of-trade* trends observed earlier for the latter half of the 1970s—that is, an overall adverse movement in the case of eastern Europe and continued improvement in that of the Soviet Union. Again the experience of the east European countries in the two major marketing areas was rather different: price trends in their trade with the market economies appear to have been broadly neutral over the last two years, whereas in intra-socialist trade a significant deterioration became evident in 1981, which can be expected to continue—and probably to sharpen—for the next three to four years as the 1979–1980 oil price jump is absorbed into the intra-CMEA trade price system.[350] This latter movement had its counterpart in improvements of 4 and 6 per cent in the two years, respectively, in the terms of trade of the Soviet Union in exchanges with the socialist countries. Much larger improvements in Soviet terms of trade with the market economies, again reflecting the large fuel component in exports, continued into 1981 on a year-over-year comparison, but probably diminished steeply in the course of the year and may be reversed in 1982 if present world market oil price trends continue.

The *trade balance* results of the volume and price changes discussed above are shown in the text table on page 293 (for country detail, see table 3.6.2).

For the countries of *eastern Europe*, these changes produced in 1980 a pronounced shift in the regional structure of the trade balance, but no further overall improvement in the deficit after the reduction from the peak level of 1978 which had been achieved in the preceding year: a $1.3 billion improvement in the balance with the market economies (developed and developing) was fully offset by an equivalent deterioration in trade with socialist countries. In 1981, by contrast, the overall deficit was reduced substantially (by $1.9 billion); this again reflected contrasting changes in the two trading areas.

Attention is drawn here to the regional structure of the trade balance because the emergence of deficits or surpluses in the two trading areas (which largely coincide with the two spheres of currency and payments arrangements: transferable rouble settlement under essentially bilateral clearing on the one hand, convertible currency settlement on the other)[351] poses rather different economic

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[348] This conclusion is confirmed by western data on fuel imports from the Soviet Union; see section 3.6(iii).

[349] Unfortunately, data on the commodity composition of trade changes are still scarce. The above statement is based on the observation that the share of the increment in imports from Argentina, Brazil, USA and Canada—the major foodstuffs suppliers—in the total increase in Soviet imports from non-socialist countries during January-September 1981 came to less than 40 per cent. On the other hand, the large increases in imports from Finland—probably best explained from the thrust for medium-term balancing of bilateral trade flows under a clearing arrangement, and which certainly has a very small foodstuffs content—accounted for a full 15 per cent of the increment (or 35 per cent of the import increment in trade with developed market economies).

[350] The recent softening and decline in real terms of world market oil prices is not likely to mitigate this trend very much, since it is merely a softening at the margins of what amounted to a 150 per cent increase in the price of crude, the bulk of which remains to be absorbed into the CMEA price system.

[351] The significant distinction is that between the currency and settlement modalities of trade and trade balances, rather than that between the geographical directions of trade, the principle on which the data are arranged here. However, even though there is a certain volume of convertible currency trade among socialist countries, at the level of broad trends the currency distinction coincides with the geographical division.

**Eastern Europe and the Soviet Union: trade balances by partner group**
*(Billions of US dollars)*

| | Eastern Europe | | | | Soviet Union | | | |
|---|---|---|---|---|---|---|---|---|
| *Trade partner group* | *1978* | *1979* | *1980* | *1981*[a] | *1978* | *1979* | *1980* | *1981* |
| World | −6.6 | −5.1 | −5.1 | −3.2 | 1.6 | 6.9 | 8.0 | 6.2 |
| Socialist countries | −1.2 | −0.1 | −1.4 | −2.2 | 0.7 | 3.3 | 5.0 | 6.2 |
| Developed market economies | −6.4 | −5.4 | −3.5 | −1.0 | −3.3 | −1.1 | 0.2 | −1.2 |
| Developing countries | 1.0 | 0.4 | −0.2 | | 4.2 | 4.7 | 2.7 | 1.2 |

*Source and trade partner groupe:* As for table 3.6.2.

[a] Secretariat estimates (see note to table 3.6.2).

management and policy issues, owing to the very large differences between the two trading areas in the institutions determining trade flows and the arrangements for financing trade imbalances (including the conditions and costs of financing). Though it is statistically convenient, the presentation of an overall balance expressed in a common currency tends to mask this fact.

The appearance of a significant deficit in the socialist trade of eastern Europe in 1980 and again, more sharply, in 1981, is mainly due to the evolution of the Polish trade balance in these two years, the virtual elimination of Poland's deficit with the market economies having been more than offset by a rising imbalance with other CMEA member countries (almost entirely in trade with the Soviet Union).

The deficits with the market economies have come down very sharply over the two-year span not only for the region as a whole, but also in the majority of the member countries taken separately (see table 3.6.2).[352] While the direction of change reflects the policy thrust of some years' standing of all of the east European countries to improve foreign trade balances, especially in trade with the convertible currency area, the outcomes of the last year can be considered improvements only in a rather technical balance-of-payments sense. Whereas the reduction in the trade deficits in 1980 occurred on the basis of continued export growth and at least some import growth in volume terms, in 1981 the sharp stagnation of external demand as well as, in some cases, the deterioration of domestic supply conditions, and hence the worsening of the earnings prospects of the east European countries, necessitated a contraction of import volume in order to insure further improvement of trade balances. The cutback was probably in the first instance supported by the sharp reduction in investment activity reported from the countries of the region, but in most countries it also affected the availability of imported industrial inputs, with negative consequences in turn for production performance and export capacity. Moreover, the reduction in trade deficits did not even lead to an improvement in the current account of the balance of payments, since this continued to deteriorate under the impact of the rapid rise in international interest rates (section (iii) below).

In the case of the *Soviet Union*, the terms-of-trade gains registered in 1980 permitted a further improvement in the overall trade surplus even while import volume expanded much faster than that of exports. Though price movements continued favourable to Soviet foreign trade through much of 1981, the further acceleration of import volume growth noted above, in combination with declining export volume, reduced the surplus in that year, which in overall terms nonetheless remained substantial.

However, in the Soviet case, too, there was a pronounced shift in the regional structure of the external balance, and therefore probably also in its currency structure. The estimated $1.2 billion increase in the Soviet trade surplus with *socialist* countries reflects the opposite change in the trade balance of the east European countries noted above.[353] This increase was more than offset by the deterioration of the trade balance with the developed and developing market economies jointly, which reduced the substantial trade surpluses of earlier years to a few million dollars in 1981. The Soviet overall surplus position is thus based in its entirety on the country's socialist (i.e. essentially rouble-denominated) trade for the first time since 1976. In the intervening years, very substantial surpluses with the *developing* countries had always more than offset Soviet deficits in trade with the *developed* market economies. These surpluses were sharply cut in 1980 and 1981 by the large upswing in Soviet imports—mainly foodstuff imports—from developing countries in the last two years (in dollar terms, increases of 60 and 40 per cent in import value in 1980 and 1981, respectively).

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[352] This reduction in deficits reflects the sometimes divergent evolution of trade balances with *developed* market economies on the one hand and *developing* countries on the other. Owing to the relatively small share of developing countries in the trade of most east European countries (with the notable exception of Bulgaria and Romania), the dominant influence was the evolution of trade with developed market economies, which will be reviewed in detail in section (iii) on east-west trade below. Exceptions to the statement in the text appear to be the German Democratic Republic and Hungary; notable turnings of the trade balance with all market economies from deficits into surpluses occurred in Czechoslovakia (in 1980, maintained in 1981), Poland and Romania (in 1981).

[353] The *level* of east European and Soviet trade balances shown in the table does not match by definition, since the underlying trade flows include trade with Yugoslavia, Cuba and the Asian planned economies in addition to the intra-area trade between eastern Europe and the Soviet Union. Apart from this, some mirror statistics problems and, in the dollar transformation of the data, cross-rate inconsistencies between the national exchange rates against the dollar affect the comparability of the two sets of figures.

This disappearance of the convertible-currency trade surplus of the Soviet Union in 1981 affects the short-term outlook for Soviet imports from outside the socialist area. In conjunction with the expectation, noted earlier, that terms-of-trade movements in 1982 will not be as favourable as they have been for the last several years, and with the probability—based on the 1981 harvest outcome—that substantial foodstuff imports will also continue in the current year, it suggests that Soviet import expansion in volume terms will, at least in the short run, be much more similar to the pace of export growth than has been the case in the recent past.

Most countries of the region have not published plan targets for 1982 in the foreign trade field, and in some of the cases where figures were supplied, they are so high that they must refer to targets in terms of current value, incorporating unknown assumptions about the future course of price movements.[354] However, given the general atmosphere of retrenchment in the national development plans and the substantial debt servicing burdens facing most east European countries, it is hard to foresee a strong import demand impulse coming from the eastern countries in 1982.

### (iii) East-west economic relations

#### (a) *General trends*

The development of east-west economic relationships has been uneven during the past year. Although certain aspects of east-west economic co-operation have improved, as evidenced most notably by the conclusion of a number of long-term agreements, nevertheless the overall economic slowdown has been reflected in declining east-west trade.

In general, the developed market economies responded to the second round of oil price increases by adopting policies which reinforced the deflationary impact of the oil price rise. This in turn led to sluggish economic activity, including western trade with the east.[355] However, other factors also played a role: more restrictive and selective measures regarding trade in the west, import restraints in the east stemming from current account imbalances in some CMEA member countries, and the further slowdown in eastern economic growth. This latter development has, on the one hand, weakened the demand for certain imports, but on the other hand, has also, in some cases, slowed the development of export capacity.

East-west economic co-operation continued to expand, as is attested to by the many *intergovernmental long-term trade and economic co-operation agreements* concluded in 1980 and 1981, which may be taken as an indication of the interest and importance attributed by governments to the existing relationship. However, the degree of interest is not uniform among governments, as some countries favour the further expansion of co-operation in a rather broad sense while others have formulated more limited concepts.

One example of recent *intergovernmental agreements* is the new trade accord between the Soviet Union and Turkey signed in January 1982.[356] Other agreements were signed within the past year between Austria and the Soviet Union in the area of economic, scientific, technical and industrial co-operation; and between Canada, the United States and the Soviet Union in the area of grain trade. Finland and the Soviet Union signed two Protocols related to long-term trade and economic co-operation between the two countries. One Protocol extended an agreement initially negotiated to cover the period 1977–1990 to 1995 while the second is a new agreement signed in November 1980 covering the period 1980–1990. The Soviet Union and the Federal Republic of Germany concluded a long-term co-operation programme up to the year 2003. In the 13 months up to September 1981, 16 new long-term agreements were signed.[357]

*Industrial co-operation* advanced in certain areas, as is reflected in the contract agreements recently reached by the Soviet Union with France, the Federal Republic of Germany, and Italy in conjunction with the Urengoy natural gas pipeline, which is to link Siberian gas fields with western Europe. Although certain issues remain to be resolved, and the exact volume of gas deliveries has not yet been decided upon by all participants, the overall scope of the undertaking would make it the largest east-west co-operation project ever. Taking all aspects of the proposed pipeline into consideration, the long-term economic impact of the project on the ECE region could be considerable. Other types of co-operation in the field of energy have also continued, with contracts being signed for deliveries of large diameter pipes, pipe-laying equipment, etc.

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[354] E.g. 15 per cent in the annual plan of the German Democratic Republic, 14 per cent in that of Romania.

[355] The term "developed market economies" (or for convenience "west" or "western") as used here refers to the countries of western Europe (including Turkey and Yugoslavia), North America and Japan. This grouping is intended only for statistical convenience. The term "eastern Europe" refers to Bulgaria, Czechoslovakia, the German Democratic Republic, Poland and Romania taken together; the term "east" or "eastern countries" refers to eastern Europe together with the Soviet Union.

[356] The agreement is a clearing arrangement which calls for an exchange of Soviet fuel oil, chemicals and electricity in return for Turkish livestock, foods, textiles and tobacco. The list of agreements given here is by no means exhaustive. For further information, the secretariat register of all east-west agreements of an economic nature, *Long-term agreements on economic co-operation and trade*, ECE/Trade/R.425, can be consulted.

[357] See *Review of Recent and Prospective Trends, Policies and Problems in Intra-Regional Trade*, ECE/TRADE/R.420, p. 10. Some existing agreements which were due to expire at the end of 1980 were extended, generally by means of tacit renewal, for a one-year period.

Nonetheless, during the past several months, the political climate affecting east-west economic relationships has deteriorated. This is reflected in the proposals which have been made and actions taken by some western governments in conjunction with the declaration of a state of martial law in Poland. The measures being considered, or taken, are of a financial, commercial and technological nature. Aside from some sanctions already implemented, an air of uncertainty prevails regarding the other proposals at this time. Under these circumstances, it would be premature to attempt an evaluation of their economic impact.

The section that follows contains a review of recent developments in trade volumes, prices and balances; the evolution of the flows of invisibles and of the current account balance between east and west; and changes in east-west financial relations. The section will conclude with a historical note reviewing similarities and contrasts in the evolution of east-west economic relationships during and following the two rounds of oil price increases of the last decade.

### (b) *Trade volumes, prices and the balance of trade*[358]

Over the past decade (and even sometime before) the volume of *western imports from eastern Europe* has grown roughly in line with the volume of total western imports from the world (also see chart 1.1.1 on page 8). However, in both 1978 and 1979, imports from eastern Europe rose at a relatively lower rate (see chart 3.6.1 (A) and tables 3.6.5 and 3.6.6). Both western imports from the world and from eastern Europe declined with the onset of the western recession in 1980. This trend continued into the first three quarters of 1981[359] as total western imports declined by 4 per cent while those from eastern Europe fell at the rate of some 12 per cent. Although it should be kept in mind that the data for 1981 are preliminary, it does appear that while total western imports recovered somewhat in the third quarter, the decline in imports from eastern Europe seemed to accelerate.[360]

The volume of *western imports from the Soviet Union* had also increased broadly in line with total western imports from the world until the middle of the 1970s (see table 3.6.5 and chart 3.6.1(B)). Thereafter, the two trade flows diverged somewhat when import growth from the Soviet Union slowed in 1977 and 1978. However, in 1979 the upward trend was reversed when the volume of imports from the Soviet Union fell at the rate of 2 per cent. Imports then continued to fall, at 6 per cent per year in 1980, and at about 8 per cent in the first three quarters of 1981.

Given past relationships, the decline in western domestic economic activity and international trade is likely to be an important factor, although not the only one explaining the decline in western imports from the east during 1980 and 1981. An examination of trade developments in 1980 by commodity groups indicates that the import volumes of most commodities declined, suggesting that aggregate demand played an important role.[361]

Recent developments in eastern Europe which have affected western imports are the direct and indirect effects of the drop in Polish output and trade (particularly coal), and in some cases, the slowdown in the growth of export capacity following the downward revision of plans. The decline in total western imports from the Soviet Union reflects lower import volumes of crude oil and oil products in 1979, 1980 and presumably also in 1981. The quantity of Soviet oil exports may have been influenced by the rising prices of oil in those years and by the substantial fall in total world oil demand in 1980 and 1981 as well.

The volume of *western exports to the Soviet Union* accelerated from 1 per cent in 1979, to 8 per cent in 1980, and finally to about 20 per cent in the first three quarters of 1981 (also see chart 3.6.1(B)). Although the 1981 figure is very high (the highest since 1976), a slowdown has taken place relative to the first five months, when exports were increasing at about 27 per cent per year.[362]

By contrast, the volume of *western exports to eastern Europe* remained more or less constant from 1977 to 1979. More recently it declined by some 4 per cent in 1980 and was dropping further in the first three quarters of 1981 at the rate of 8 per cent per year. This latter rate is about one-half of the much steeper rate of decline observed in the first five months of the year, implying that some recovery of western exports took place in the intervening months.

Recent economic developments in the west have intensified western government and enterprise interest in maintaining, and if possible, even enlarging western exports to the east. High unemployment, low capacity utilization, increased economic difficulties of certain firms, industries (particularly steel, investment goods, etc.) or even regions, and generally weak export markets (also see section 1(ii)) have all been factors. In particular, rising unemployment[363] now seems to have become a major consideration behind export promotion. East-west trade has also been considered important in some western countries (United States, Canada, and

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[358] The analysis presented here is based upon the United Nations trade data base which derives from western data sources. However, in certain places data taken from the national statistical sources of the countries of eastern Europe and the Soviet Union are also introduced. Some differences in the two sets of data are due to country coverage. However, differences also arise for other reasons which have been analyzed in P. Marer, "Toward a Solution of the Mirror Statistics Puzzle in East-West Commerce" in *International Economics—Comparisons and Interdependences*, F. Levcik, (Ed.), Vienna Institute for Comparative Economic Studies, 1978.

[359] Growth rates given for the first three quarters of 1981 are always calculated with respect to the same period in 1980.

[360] Trade developments for the first five months of 1981 relative to the same period in 1980 are given in: United Nations, *Economic Bulletin for Europe*, vol. 33 No. 4, 1981. The same source treats east-west trade by commodity.

[361] See United Nations *Economic Bulletin for Europe*, vol. 33 No. 4, 1981, table 2.7.

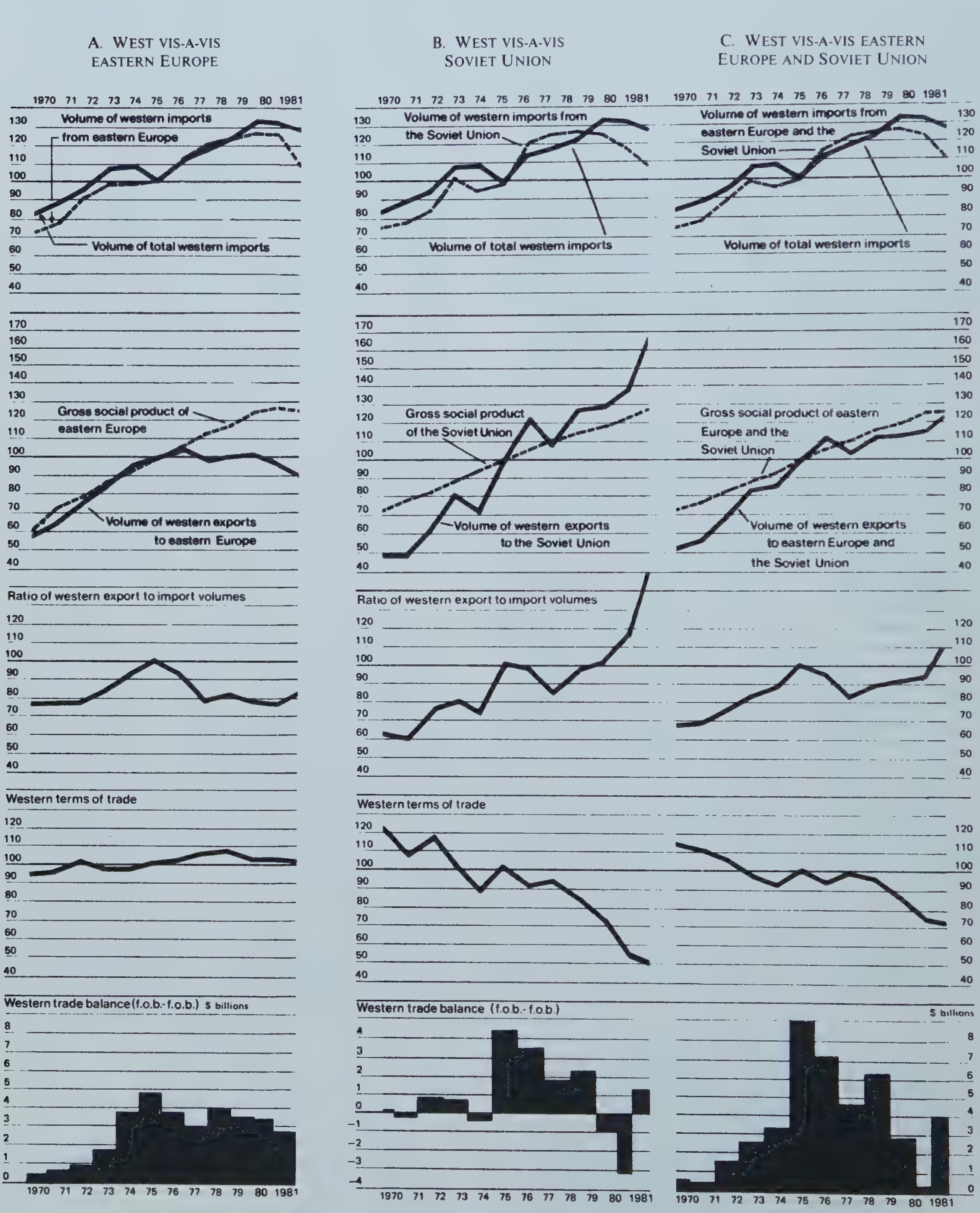
[362] *Ibid.* table 2.1.

[363] The number of jobs in the west depending directly and indirectly on east-west trade is difficult to quantify, but some estimates have put the total at well over one million. For the Federal Republic of Germany alone, it has been estimated that between 100,000 and 300,000 jobs are maintained through exports to the east. *International Herald Tribune*, 27 January 1982, p. 2.

CHART 3.6.1

International trade of the developed market economies with eastern Europe and the Soviet Union

*(Indices 1975 = 100)*



A. WEST VIS-A-VIS EASTERN EUROPE

B. WEST VIS-A-VIS SOVIET UNION

C. WEST VIS-A-VIS EASTERN EUROPE AND SOVIET UNION

*Source:* As for table 3.6.5.
Data for 1981 are preliminary estimates.

### TABLE 3.6.5

## Trade of the developed market economies with eastern Europe and the Soviet Union

*(Percentage change over the same period of previous year)*

| Developed market economies with: | Western exports | | | | | | | Western imports | | | | | | | Terms of trade (1975 = 100) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | Jan.-Sept. 1981 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | Jan.-Sept. 1981 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | Jan.-Sept. 1981 |
| *Values* (in terms of US dollars) | | | | | | | | | | | | | | | | | | | | | |
| Eastern Europe and Soviet Union | 32 | 5 | 1 | 17 | 18 | 12 | 2 | 6 | 17 | 12 | 14 | 35 | 19 | −4 | 100 | 96 | 99 | 96 | 86 | 74 | 71 |
| *of which:* | | | | | | | | | | | | | | | | | | | | | |
| Eastern Europe | 12 | −1 | 2 | 19 | 17 | 9 | −12 | 9 | 9 | 10 | 14 | 26 | 11 | −13 | 100 | 101 | 105 | 108 | 103 | 103 | 100 |
| Soviet Union | 66 | 9 | — | 16 | 20 | 15 | 16 | 6 | 22 | 14 | 14 | 43 | 29 | 1 | 100 | 91 | 93 | 86 | 71 | 55 | 50 |
| *Volumes* | | | | | | | | | | | | | | | | | | | | | |
| Eastern Europe and Soviet Union | 20 | 13 | −9 | 9 | 1 | 3 | 6 | 4 | 18 | 4 | 1 | 1 | −3 | −10 | | | | | | | |
| *of which:* | | | | | | | | | | | | | | | | | | | | | |
| Eastern Europe | 4 | 4 | −7 | 2 | 1 | −4 | −8 | 1 | 14 | 6 | 2 | 3 | −1 | −12 | | | | | | | |
| Soviet Union | 43 | 22 | −10 | 15 | 1 | 8 | 20 | 7 | 23 | 2 | 1 | −2 | −6 | −8 | | | | | | | |
| *Prices* (in terms of US dollars) | | | | | | | | | | | | | | | | | | | | | |
| Eastern Europe and Soviet Union | 11 | −7 | 9 | 8 | 17 | 8 | −4 | 4 | −2 | 6 | 11 | 32 | 25 | 6 | | | | | | | |
| *of which:* | | | | | | | | | | | | | | | | | | | | | |
| Eastern Europe | 8 | −3 | 7 | 16 | 16 | 13 | −4 | 6 | −3 | 3 | 13 | 21 | 13 | −1 | | | | | | | |
| Soviet Union | 16 | −10 | 11 | 1 | 19 | 5 | −4 | 3 | −2 | 9 | 9 | 44 | 37 | 9 | | | | | | | |

*Sources:* United Nations trade data; OECD, *Statistics on Foreign Trade, Series A*, Paris; IMF, *Directions of Trade* and *International Financial Statistics*, Washington D.C.; national statistics.

Data for the United Kingdom were not available for the period January-September 1981. Consequently, the United Kingdom was removed from growth rate calculations of January-September 1981 relative to January-September 1980 and from projections of trade balances for 1981 as well.

Price and volume indices: for the methodology and derivation, see United Nations, *Economic Bulletin for Europe*, vol. 31, No. 1.

Throughout, western data do not include trade between the Federal Republic of Germany and the German Democratic Republic, unless otherwise noted. Eastern statistical sources include trade between the Federal Republic of Germany and the German Democratic Republic.

The same data are used in charts 3.6.1 (A) to 3.6.1 (C). In addition, the volume indices of total western imports from the world come from United Nations, *Monthly Bulletin of Statistics*. The indices of gross social product of eastern Europe and the Soviet Union are based upon the national statistical sources of those countries.

In addition to the western data used in table 3.6.5 and subsequent tables, several tables also present trade data based on eastern national sources. These sources typically present the trade of the eastern countries with the "industrial capitalist countries", which is a slightly different geographical grouping than "developed market economies" (already defined in footnote 355). The former grouping includes Australia, New Zealand and South Africa in addition to the countries of western Europe, North America, Japan, and excludes Turkey and Yugoslavia. Thus, when eastern national sources are cited in the text and tables as the sources of data on the "developed market economies", the data in fact refer to this broader coverage; this coverage difference accounts for part of the difference between the respective time series.

Table 3.6.6

**Trade of the developed market economies with eastern Europe and the Soviet Union**
*(Percentage change over the same period of previous year, in US dollar terms)*

| | *Western exports* | | | | | *Western imports* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *1977* | *1978* | *1979* | *1980* | *Jan.-Sept. 1981* | *1977* | *1978* | *1979* | *1980* | *Jan.-Sept. 1981* |
| A. *Developed market economies with*: | | | | | | | | | | |
| Eastern Europe and Soviet Union | 1 | 17 | 18 | 12 | −1 | 12 | 14 | 35 | 19 | −4 |
| *of which:* Eastern Europe | 2 | 19 | 17 | 9 | −12 | 10 | 14 | 26 | 11 | −13 |
| Soviet Union | — | 16 | 20 | 15 | 16 | 14 | 14 | 43 | 29 | 1 |
| B. *Western Europe with*: | | | | | | | | | | |
| Eastern Europe and Soviet Union | 7 | 14 | 15 | 18 | −1 | 12 | 13 | 36 | 23 | −6 |
| *of which:* Eastern Europe | 2 | 18 | 14 | 8 | −12 | 10 | 12 | 28 | 13 | −15 |
| Soviet Union | 13 | 9 | 17 | 30 | 9 | 14 | 13 | 43 | 32 | 1 |
| C. *North America with*: | | | | | | | | | | |
| Eastern Europe and Soviet Union | −30 | 44 | 50 | −16 | 16 | 4 | 55 | 24 | −22 | 15 |
| D. *Japan with*: | | | | | | | | | | |
| Eastern Europe and Soviet Union | −5 | 20 | 1 | 10 | 18 | 19 | 3 | 34 | −5 | 3 |
| E. *Developed market economies with*: | | | | | | | | | | |
| Eastern Europe and Soviet Union | −2 | 14 | 19 | 14 | −2 | 9 | 10 | 38 | 25 | −5 |
| *of which:* Eastern Europe | 0 | 10 | 14 | 9 | −10 | 4 | 13 | 27 | 22 | −8 |
| Soviet Union | −6 | 20 | 25 | 20 | 7 | 15 | 7 | 49 | 28 | −3 |

*Sources:* As for table 3.6.5 (western data) and 3.6.2 (eastern data).

*Note:* Sections A-D are based on western data; section E is based on eastern national sources.

certain west European food exporters) where agricultural products make a considerable contribution to sectoral income and export revenue, particularly at a time when a favourable supply situation exists (and is forecast to continue in the current crop year) in the major traditional food exporting regions.

Although western exports to eastern Europe have been linked to economic activity in that region, in recent years they appear to be more constrained by continuing balance of payments deficits. As the western recession and the other factors already mentioned reduced eastern Europe's export possibilities, imports have had to be more tightly regulated to prevent a widening of current account deficits. Further emphasis has also been placed on exports by eastern Europe as well. On the other hand recent harvest shortfalls have tended to increase total western exports to the east.[364] The development of Soviet imports in the past two years also appears linked to the oil prices and revenues from energy exports.

Due to the appreciation of the US dollar, *western export prices* (in terms of US dollars) declined about 4 per cent in the first three quarters of 1981 relative to the same period in the previous year. Prices of western manufactured goods have tended to soften as competition in world markets increased during the economic downturn and because of the rise in unused western capacity. Moreover, the prices of raw materials (except fuels), which make up some 7 per cent of western exports to eastern Europe, also declined on average. Tending to buoy western prices was food, particularly grain, the price of which increased somewhat in 1981 (in terms of US dollars). Energy continued to have a large influence on *western import prices* which rose around 6 per cent in the first three quarters of 1981. Prices of imports from the Soviet Union rose somewhat more at about 9 per cent because of the large role of energy in the import structure (65 per cent of total western imports). Petroleum products and coal, which together accounted for over 21 per cent of western imports from eastern Europe in 1980, also played a role in the development of western import prices from that region. Otherwise, the prices of the other goods imported by the west (mainly manufactures) from the east were probably affected by the same depressed market conditions facing western exporters.

As a result of these price movements, the *terms of trade* of the developed market economies with eastern Europe probably deteriorated somewhat in the first three quarters of 1981 while the long-term decline vis-à-vis the Soviet Union continued. However, since nominal crude oil prices peaked in dollar terms in 1981, and have been declining since, the terms of trade of the western countries are likely to show some improvement.

The *balance of trade* surplus of the *developed market economies* (tables 3.6.7 and 3.6.8) with *eastern Europe* has been declining gradually for several years and is likely to fall to a level of some $2.7 billion in 1981. On the other hand, the western trade surplus

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[364] Also see United Nations, *Economic Bulletin for Europe*, vol. 33 No. 4, table 2.6, for the effect of trade in food on the structure of western exports.

TABLE 3.6.7

**Trade balances of the developed market economies with eastern Europe and the Soviet Union**
*(Billions of US dollars, f.o.b.–f.o.b.)*

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| A. *Developed market economies with:* | | | | | | | | | | |
| Eastern Europe and the Soviet Union | 1.6 | 2.5 | 3.3 | 9.0 | 7.2 | 4.6 | 6.3 | 2.9 | 0.4 | 4.0 |
| *of which:* Eastern Europe | 0.9 | 1.8 | 3.7 | 4.7 | 3.7 | 2.9 | 4.0 | 3.4 | 3.3 | 2.7 |
| Soviet Union | 0.7 | 0.7 | −0.4 | 4.3 | 3.5 | 1.8 | 2.3 | −0.5 | −2.9 | 1.3 |
| B. *Western Europe with:* | | | | | | | | | | |
| Eastern Europe and the Soviet Union | 0.7 | 1.2 | 2.6 | 5.4 | 2.4 | 1.4 | 1.8 | −2.8 | −5.2 | −3.3 |
| *of which:* Eastern Europe | 0.7 | 1.4 | 3.2 | 3.7 | 2.7 | 2.0 | 2.9 | 1.7 | 1.1 | 0.9 |
| Soviet Union | – | −0.1 | −0.6 | 1.7 | −0.3 | −0.6 | −1.1 | −4.5 | −6.3 | −4.2 |
| C. *North America with:* | | | | | | | | | | |
| Eastern Europe and the Soviet Union | 0.7 | 1.5 | 0.5 | 2.5 | 3.2 | 2.0 | 2.7 | 4.5 | 4.0 | 5.0 |
| *of which:* Eastern Europe | – | 0.3 | 0.3 | 0.5 | 0.7 | 0.3 | 0.6 | 1.2 | 1.6 | 1.1 |
| Soviet Union | 0.7 | 1.2 | 0.3 | 2.0 | 2.6 | 1.7 | 2.2 | 3.3 | 2.3 | 3.9 |
| D. *Japan with:* | | | | | | | | | | |
| Eastern Europe and the Soviet Union | 0.1 | −0.2 | 0.2 | 1.0 | 1.6 | 1.2 | 1.7 | 1.2 | 1.7 | 2.2 |
| *of which:* Eastern Europe | 0.1 | 0.2 | 0.3 | 0.4 | 0.4 | 0.6 | 0.5 | 0.5 | 0.6 | 0.6 |
| Soviet Union | – | −0.4 | −0.1 | 0.6 | 1.2 | 0.7 | 1.2 | 0.7 | 1.1 | 1.6 |
| E. *Developed market economies with:* | | | | | | | | | | |
| Eastern Europe and the Soviet Union | 2.5 | 3.7 | 5.0 | 11.4 | 10.5 | 7.6 | 9.7 | 6.6 | 3.3 | 4.8 |
| *of which:* Eastern Europe | 1.2 | 2.6 | 5.2 | 6.5 | 6.5 | 6.1 | 6.4 | 5.4 | 3.5 | 2.7 |
| Soviet Union | 1.2 | 1.1 | −0.1 | 5.0 | 4.0 | 1.5 | 3.3 | 1.1 | −0.2 | 2.1 |

*Sources:* As for table 3.6.5 (western data) and 3.6.2 (eastern data)

*Note:* Sections A–D are based on western data which has been adjusted to an *f.o.b.–f.o.b.* basis by the secretariat; section E is based on eastern national sources. A positive balance indicates a surplus for the developed market economies.

[a] Projected, assuming a continuation of January–September trends of exports and imports.

with the *Soviet Union* has been much more variable. Western surpluses in the period 1975–1978 turned to deficits in 1979 ($0.5 billion) and 1980 ($2.9 billion) as the Soviet terms of trade improved following the second round of oil price increases.[365] However, in 1981 the deterioration in the western terms of trade slowed, while western exports to the Soviet Union grew very rapidly. Consequently, the west is likely to have a surplus of some $1.3 billion with the Soviet Union in 1981, which would represent a $4.2 billion turnaround in the trade balance.

A closer examination of the trade balances in the regional groupings within the developed market economies in trade with eastern Europe and the Soviet Union indicate that there are considerable differences (see table 3.6.7). *Western Europe*, which accounts for most of western trade with the east, has had a gradually declining surplus with *eastern Europe* since 1975. In 1981, the surplus could be reduced to under $1 billion. By contrast western Europe's trade with the *Soviet Union* has been in deficit in every year during the past decade except 1975. The oil price increases in 1979 and 1980 increased the deficit substantially (to $4.5 and $6.3 billion respectively), but in 1981 it is likely to be reduced by some $2 billion to around $4 billion. Thus western Europe's trade with eastern Europe and the Soviet Union together has been in deficit for three consecutive years (1979–1981) during which a cumulative deficit of over $11 billion was registered while in the three years following the first oil price increase in 1973 (i.e. 1974–1976), it had a cumulative surplus of almost the same amount ($10.4 billion).

By contrast *North America* has had a surplus with both *eastern Europe and the Soviet Union* (separately as well as together) every year during the past decade. This surplus rose to $4 billion or more in both 1979 and 1980 as a result of large eastern grain purchases and will probably rise to about $5 billion in 1981 for predominantly the same reason. Trade with the Soviet Union is responsible for the increase in 1981 since the surplus with eastern Europe seems likely to fall off somewhat. *Japan* has also had a trade surplus with *eastern Europe and the Soviet Union* (both together and separately) since 1975; the surplus is likely to increase further, to some $2.2 billion in 1981, because of the larger surplus with the Soviet Union. Japan's surplus with eastern Europe has been remarkably stable over the past five years at a level of some $0.5–$0.6 billion. The national statistics of the eastern countries show similar trends in trade balances (table 3.6.7, Section E). However, the trade surpluses of the developed market economies have generally been larger in terms of eastern statistics.

As the trade surplus of the developed market economies was reduced in both 1979 and 1980, the deterioration in the trade balances was widely shared

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[365] Some of the increase in the western trade deficit with the Soviet Union in 1980 is due to the switch by the latter country from the United States to Argentina as its main supplier of grain. Similarly, the western trade surplus in 1981 will be smaller on account of this change in regional trade patterns.

TABLE 3.6.8

**Estimated current account balance of payments of the developed market economies with the countries of eastern Europe and the Soviet Union**
*(Billions of US dollars)*

| | *Trade balance*[a] | | | *Current account*[c] | |
|---|---|---|---|---|---|
| | *Western data* | *Eastern data* | *Net services plus transfers*[b] | *Western data* | *Eastern data* |
| *Bulgaria* | | | | | |
| 1979 | 0.33 | 0.04 | 0.22 | 0.54 | 0.26 |
| 1980 | 0.65 | 0.02 | 0.27 | 0.92 | 0.29 |
| 1981* | 1.04 | 0.36 | 0.18 | 1.22 | 0.54 |
| *Czechoslovakia* | | | | | |
| 1979 | 0.04 | 0.80 | 0.46 | 0.49 | 1.26 |
| 1980 | −0.18 | 0.45 | 0.57 | 0.39 | 1.02 |
| 1981* | −0.32 | 0.14 | 0.68 | 0.36 | 0.82 |
| *German Democratic Republic*[d] | | | | | |
| 1979 | 1.02 | 1.86 | −0.16 | 0.86 | 1.70 |
| 1980 | 0.46 | 1.64 | 0.28 | 0.74 | 1.92 |
| 1981* | 0.49 | 1.79 | 0.52 | 1.01 | 2.30 |
| *Hungary*[e] | | | | | |
| 1979 | 0.50 | 0.75 | 0.59 | 1.09 | 1.33 |
| 1980 | 0.57 | 0.71 | 0.58 | 1.16 | 1.29 |
| 1981* | 0.77 | 1.14 | 0.58 | 1.34 | 1.72 |
| *Poland*[f] | | | | | |
| 1979 | 1.12 | 1.61 | 1.12 | 2.24 | 2.72 |
| 1980 | 1.11 | 0.84 | 1.92 | 3.02 | 2.76 |
| 1981* | 1.14 | 0.53 | 2.10 | 3.24 | 2.63 |
| *Romania* | | | | | |
| 1979 | 0.61 | 0.39 | 0.56 | 1.18 | 0.95 |
| 1980 | 0.62 | −0.13 | 1.07 | 1.68 | 0.85 |
| 1981* | −0.53 | −1.25 | 1.16 | 0.63 | −0.09 |
| *Eastern Europe* | | | | | |
| 1979 | 3.62 | 5.44 | 2.78 | 6.40 | 8.22 |
| 1980 | 3.23 | 3.41 | 4.68 | 7.91 | 8.09 |
| 1981* | 2.60 | 2.71 | 5.21 | 7.82 | 8.13 |
| *Soviet Union* | | | | | |
| 1979 | −0.48 | 1.13 | −0.30 | −0.78 | 0.83 |
| 1980 | −2.91 | −0.22 | −0.20 | −3.11 | −0.42 |
| 1981* | 1.27 | 2.14 | 0.41 | 1.70 | 2.55 |
| *Total*[g] | | | | | |
| 1979 | 3.14 | 6.57 | 2.86 | 6.00 | 9.43 |
| 1980 | 0.32 | 3.32 | 4.96 | 5.28 | 8.28 |
| 1981* | 3.86 | 4.85 | 6.20 | 10.05 | 11.05 |

*Note:* A positive balance indicates a surplus for the developed market economies.

*Sources:* As for table 3.6.5 (western data) and table 3.6.2 (eastern data), and secretariat estimates.

[a] Trade balance *f.o.b.-f.o.b.*, except for Hungarian imports which are shown *c.i.f.* in the national returns. Trade balances for 1981 are projected, assuming a continuation of January-September trends of exports and imports.

[b] Invisibles' balances are secretariat estimates, except in the cases of Poland and Hungary (Hungarian data for 1981 are partially estimated).

[c] Estimated using balances based on western and eastern trade data sources respectively and common secretariat estimates of invisibles flows. (See footnote [b].)

[d] Includes trade between the Federal Republic of Germany and the German Democratic Republic.

[e] Also see footnote 371 dealing with the Hungarian balance of payments.

[f] Includes $ 500 million in interest rescheduled and $ 350 million in interest due in 1981.

[g] Includes interest paid by CMEA banks.

by the individual western countries. The majority of west European countries had already been in deficit with the east in at least the second half of the 1970s; these include Denmark, Greece, Iceland, Ireland, Italy (whose deficit rose by over $1 billion in 1980), Portugal, the Netherlands, Norway, Sweden, Turkey, the United Kingdom and Yugoslavia.[366] Switzerland registered a deficit for the first time in 1979 which increased further in 1980, while Austria, Belgium-

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[366] Individual country east-west data are given in tables 3.6.9 and 3.6.10.

Luxembourg and France went into deficit only in 1980. By contrast, the Federal Republic of Germany improved its surplus somewhat in 1980. In North America, the $1.4 billion reduction in the surplus of the United States of America was only partially offset by Canada's $0.8 billion improvement.

The large improvement which took place in the developed market economies' trade balance for the first three quarters of 1981 was also widely shared as the majority of western countries either increased their trade surpluses or decreased their deficits with the east. Western countries experiencing the largest improvements were Finland ($1.4 billion),[367] Yugoslavia ($1.2 billion) and the United States ($1 billion). Improvements in trade balances of a smaller magnitude were recorded by Japan, Italy, Sweden and Denmark. At the same time, the Federal Republic of Germany's trade surplus dropped so sharply that it is likely to be lower than at any time during the past decade. Austria, the Netherlands and Turkey recorded higher deficits.

Regarding the countries of eastern Europe, the largest changes in trade balances in 1981 occurred with Romania, where the western trade surplus of $620 million in 1980 turned to a deficit of some $530 million, which represents a turnaround of more than $1 billion. The western deficit with Czechoslovakia is projected to have increased, while western surpluses with Bulgaria and Hungary are projected to have grown; eastern statistics tend to show similar developments in western trade balances with the individual eastern countries, though, as usual, the western surpluses tend to be larger (deficits smaller) than in western data.

### (c) *Invisibles and current account of the east-west balance of payments*

The western surplus on the *invisibles* account continued to increase from approximately $2.9 billion in 1979, to $5 billion in 1980, and rose further to over $6 billion in 1981 (table 3.6.8). In fact the increase in this surplus has been a regular phenomenon which has been due to the growth of *investment income* receipts from interest payments (1979: $5 billion, 1980: $7 billion and 1981: $8.5 billion) as the eastern debt has risen. In recent years the rise in interest rates on the international markets (see below) has been widening the imbalance. Taken together, the other items in the western net invisibles account—mainly transport and insurance, travel, and transfers—have been in deficit to the extent of some $2.5 billion in the past two years. Since the total of these three items has been substantially smaller than the income item, and since it has grown relatively slowly, it is likely that the variations in the investment income item will continue to have the dominant effect on total invisible flows.

The widening western surplus on the investment income account is attributable to the rising *commercial interest rates* in the international financial markets as well as to the accumulation of debt on the part of the eastern countries.[368] The table below presents an average interest rate based on a basket of euro-currencies in which a considerable part of the eastern commercial debt is denominated. Of course, the extent to which this average reflects the actual average interest rate that a country pays on its commercial debt depends on the currency composition, as well as on other factors. Some eastern countries have tended to maintain a relatively high percentage of their debt in currencies which have carried low interest rates (such as the Swiss franc and the Deutschmark). However, in light of the rapid rise in the interest rates on these two currencies in 1981, the developed market economies would have also experienced a relatively rapid rise on their income account vis-à-vis those eastern countries. On the other hand, credit costs (spreads and front-end fees) have also tended to rise for most of the eastern countries in 1980 and particularly towards the end of 1981 (also see section (d)), tending to further increase western investment income earnings. On the other hand, higher interest rates have raised eastern investment income receipts from deposits held by eastern Europe and the Soviet Union in western banks.

**Average interest rate on inter-bank deposits reflecting a basket of euro-currencies**

| *1973* | *1974* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *1981* |
|---|---|---|---|---|---|---|---|---|
| 7.8 | 11.1 | 6.2 | 5.4 | 5.6 | 6.2 | 8.5 | 11.1 | 13.9 |

| *1981–Q1* | *1981–Q2* | *1981–Q3* | *1981–Q4* |
|---|---|---|---|
| 13.0 | 14.4 | 15.1 | 12.9 |

*Sources:* OECD *Interest Rates 1960–1974*, Paris 1976 and *Financial Statistics Monthly*, Paris; and secretariat estimates.

It will be remembered that a large part of the commercial credits were accumulated during the period 1976–1978 when nominal interest rates were relatively low and real interest rates were often negative. Subsequently, the situation changed dramatically as nominal interest rates more than doubled and real interest rates became positive, occasionally significantly so.[369] For example, the real

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[367] Finland showed the highest rate of trade growth with eastern Europe and the Soviet Union together in 1980 and the first three quarters of 1981 (see table 3.6.9). Most of this trade is with the Soviet Union, with which Finland has a bilateral trade agreement based on five-year protocols. It appears that the increase in Finnish exports to the east has played an important role in the large increase in western exports to the Soviet Union in 1980 and 1981. The value of imports from the Soviet Union rose rapidly in 1979–1980 following the price increases in oil and other energy products (which account for over 80 per cent of Finnish imports) on world markets. Owing to the bilateral nature of trade, this growth in the value of imports was compensated by increasing export deliveries to the Soviet Union.

[368] Interest rates on medium-term euro-credits, which make up a large part of the eastern debt to commercial banks, are altered every three, six, nine or twelve months (period chosen by borrower) in line with ruling short-term interest rates (usually the London inter-bank offered rate on Euro-dollars LIBOR). On the other hand interest rates on official export credits are generally constant for the entire period of the credit. Changes in these interest rates, as discussed below, affect only new credits.

[369] On the other hand borrowing conditions have improved since the mid-1970s. Contractual spreads on loans gradually decreased for almost all of the east European countries (except Poland) and for the Soviet Union from over 1 per cent in 1977 down to 0.5–0.625 per cent in 1980 while maturities were extended from 6–7 years (1977) to anywhere from 7–10 years in 1979 to 7–8 years in 1980. However, in the past year or so there has been a reversal of this trend.

TABLE 3.6.9

### Trade between the developed market economies and eastern Europe and the Soviet Union, by country: 1975–1981

(*Annual percentage change over the same period of previous year, in US dollar terms*)

| | *Western exports* | | | | | | | *Western imports* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *Jan.-Sept. 1981* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *Jan.-Sept. 1981* |
| *Western trade with:* | | | | | | | | | | | | | | |
| Bulgaria | 26 | −13 | −6 | 21 | 14 | 31 | 20 | −8 | 22 | 8 | 11 | 56 | 7 | −11 |
| Czechoslovakia | 9 | 9 | −1 | 13 | 19 | 10 | −17 | 7 | 4 | 10 | 14 | 27 | 19 | −11 |
| German Democratic Republic[a] | 17 | 14 | −6 | 23 | 54 | 6 | 10 | 12 | 3 | 12 | 12 | 22 | 24 | 8 |
| German Democratic Republic[b] | 14 | 10 | 3 | 22 | 32 | 8 | −5 | −10 | 8 | 11 | 13 | 26 | 23 | −5 |
| Hungary | 2 | −1 | 27 | 29 | 1 | 11 | −1 | −7 | 15 | 22 | 13 | 29 | 9 | −10 |
| Poland | 19 | 1 | −8 | 11 | 9 | 7 | −26 | 12 | 13 | 9 | 12 | 16 | 8 | −35 |
| Romania | −3 | 0 | 14 | 28 | 26 | 4 | −22 | 3 | 23 | −3 | 20 | 36 | 4 | 7 |
| Soviet Union | 66 | 9 | – | 16 | 20 | 15 | 15 | 6 | 22 | 14 | 14 | 43 | 26 | 1 |
| Total[a] | 32 | 5 | 1 | 17 | 18 | 12 | 2 | 6 | 17 | 12 | 14 | 35 | 19 | −4 |
| Total[b] | 31 | 5 | 1 | 18 | 18 | 12 | 1 | 6 | 17 | 12 | 14 | 34 | 19 | −5 |
| of which: *Trade between western Europe and eastern Europe and the Soviet Union, by country* | | | | | | | | | | | | | | |
| Bulgaria | 31 | −15 | −4 | 20 | 15 | 23 | 12 | −9 | 22 | 10 | 12 | 56 | 10 | −12 |
| Czechoslovakia | 10 | 5 | 2 | 13 | 12 | 11 | −13 | 10 | 4 | 10 | 13 | 28 | 18 | −11 |
| German Democratic Republic[a] | 18 | 7 | −3 | 14 | 35 | 9 | 22 | 15 | 4 | 12 | 10 | 22 | 24 | 8 |
| German Democratic Republic[b] | 14 | 7 | 5 | 18 | 23 | 10 | −2 | 11 | 9 | 11 | 12 | 26 | 23 | −5 |
| Hungary | – | – | 26 | 29 | 2 | 9 | −2 | −3 | 14 | 23 | 12 | 28 | 11 | −11 |
| Poland | 17 | – | −8 | 7 | 9 | 9 | −33 | 16 | 12 | 10 | 10 | 19 | 10 | −38 |
| Romania | – | −2 | 11 | 34 | 27 | −3 | −23 | 5 | 21 | −5 | 16 | 42 | 7 | 0 |
| Soviet Union | 50 | – | 13 | 9 | 17 | 30 | 9 | 12 | 26 | 14 | 13 | 43 | 32 | 1 |
| Total[a] | 25 | – | 7 | 14 | 15 | 18 | −1 | 10 | 18 | 12 | 12 | 36 | 23 | −5 |
| Total[b] | 24 | – | 7 | 14 | 15 | 17 | −2 | 10 | 18 | 12 | 13 | 35 | 23 | −6 |
| *Reporting country:* | | | | | | | | | | | | | | |
| Austria | 18 | 1 | 10 | 18 | 20 | 5 | −15 | 9 | 14 | 14 | 12 | 27 | 33 | 6 |
| Belgium-Luxembourg | 3 | −8 | −4 | 12 | 24 | 24 | −12 | 8 | −5 | 22 | 15 | 29 | 53 | −13 |
| Denmark | 9 | −9 | 2 | 17 | 13 | 4 | −23 | 22 | 10 | 4 | 14 | 30 | 16 | −41 |
| Finland | 47 | 14 | 14 | 2 | 3 | 56 | 45 | 4 | 2 | 12 | −5 | 53 | 46 | −2 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| France | 61 | 5 | 2 | 5 | 38 | 15 | −12 | 28 | 18 | 11 | 14 | 30 | 61 | −8 |
| Germany Federal Republic[a] | 16 | −3 | 6 | 16 | 13 | 9 | −20 | 7 | 25 | 11 | 26 | 42 | 6 | −14 |
| Greece | 10 | 9 | 16 | 15 | −6 | 46 | −18 | 38 | 47 | −4 | 69 | −9 | 3 | −7 |
| Iceland | – | 1 | 51 | −20 | 28 | 29 | −3 | −13 | 7 | 15 | −7 | 50 | 6 | −31 |
| Ireland | −17 | −43 | 46 | 30 | 87 | 55 | 16 | −4 | – | 30 | 11 | 45 | −25 | −30 |
| Italy | 32 | −10 | 16 | 5 | 9 | 4 | −8 | 2 | 28 | 6 | 13 | 32 | 38 | −14 |
| Netherlands | 5 | −4 | 7 | 15 | 22 | 24 | 4 | 22 | 18 | 11 | 16 | 50 | 26 | 29 |
| Norway | 28 | 8 | – | 16 | −23 | 8 | −11 | 9 | 38 | 15 | −19 | 24 | −7 | 3 |
| Portugal | 120 | 96 | −3 | −8 | 33 | −8 | 0 | 150 | 97 | 1 | −20 | 56 | 8 | 18 |
| Spain | 26 | 18 | −6 | 24 | 55 | – | 78 | 38 | −7 | −20 | 10 | 48 | 37 | 13 |
| Sweden | 40 | −6 | −8 | 4 | 20 | 2 | −5 | 30 | 4 | – | −5 | 63 | −8 | −27 |
| Switzerland | 23 | 7 | 11 | 21 | 1 | −1 | −24 | −6 | 45 | 20 | 40 | 35 | 25 | −33 |
| Turkey | −16 | 35 | 4 | 87 | 1 | 43 | −27 | −5 | 31 | 8 | 14 | 77 | −2 | 36 |
| United Kingdom | 29 | −9 | 23 | 28 | 10 | 28 | : | −5 | 24 | 16 | 5 | 30 | 1 | : |
| Yugoslavia | 29 | 8 | 1 | 16 | 12 | 49 | 44 | 9 | 16 | 26 | 6 | 20 | 28 | 16 |
| Total western Europe | 25 | – | 7 | 14 | 15 | 18 | −1 | 10 | 18 | 12 | 12 | 36 | 23 | −6 |
| Canada | 270 | 31 | −30 | 42 | 28 | 79 | 1 | −16 | 22 | −4 | 10 | 27 | −9 | 16 |
| United States | 95 | 26 | −27 | 45 | 54 | −32 | 23 | −18 | 19 | 5 | 64 | 23 | −24 | 14 |
| Japan | 32 | 27 | −5 | 20 | 1 | 10 | 18 | −19 | −1 | 19 | 3 | 34 | −5 | 3 |
| Subtotal | 71 | 27 | −19 | 33 | 30 | −6 | 17 | −18 | 7 | 12 | 25 | 28 | −13 | 9 |
| DEVELOPED MARKET ECONOMIES[a] | 32 | 5 | 1 | 17 | 18 | 12 | 2 | 6 | 17 | 12 | 14 | 35 | 19 | −4 |

*Note:* Based on western data.

[a] Excluding trade between the Federal Republic of Germany and the German Democratic Republic.

[b] Including trade between Federal Republic of Germany and the German Democratic Republic.

interest rate on Euro-dollars (as measured by the six month Euro-dollar rate minus the rate of change in the United States consumer price index) was relatively high (some 5 per cent) towards the end of 1980 and even higher for most of 1981.[370]

The western net investment income account vis-à-vis the eastern countries also reflects the role played by *official government export credits* in the total eastern debt. A higher percentage of this type of debt would not only lead to lower total interest payments, but also, because of the relatively fixed rates, to a less rapid rise in these payments during the past few years.

As the gap between official export credit interest rates and commercial interest rates has widened, pressure has developed to adjust official rates upward from those presented in the text table on page 305. These rates had been agreed on in May 1980 by the Arrangement on Guidelines for Officially Supported Export Credits (the Consensus). In October 1981 the member countries agreed to increase the minimum interest rates applied to official export credits further by 2.5 per cent to a level of 10.0–11.25 per cent. Japan, whose domestic long-term interest rates have been below this level, agreed to make official yen loans through its Export-Import Banks at 9.25 per cent. The new rate regime went into effect on 16 November 1981 and will last for six months. Although subsidization of export credits will continue under the new rate system, the value of subsidies may be reduced by an estimated 20–25 per cent.

### *Current account*

The western surplus on *current account* with eastern Europe rose from $6.4 billion in 1979 to about $7.9 billion in 1980 (entirely as a result of a larger surplus in invisibles), whereas the current account deficit with the Soviet Union increased from $0.8 billion to over $3 billion (table 3.6.8).[371] In the latter case this was the result of a widening of the western trade deficit.

Estimates of current account balances in 1981 based upon projections of nine-month trade data and estimates of invisibles flows suggest that the western

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[370] *Financial Times*, 17 February 1982, p. 11.

[371] The developed market economies would also show a lower current account surplus with Hungary in 1980 in table 3.6.8 if the "other" category (errors and omissions)—see below—were to be included in the estimates.

The Hungarian National Bank publishes the current account balances of Hungary in terms of all convertible currencies, which covers a wider range of partner countries (including CMEA members) than those included in assessments of east-west transactions; Hungarian trade data show that the convertible currency trade surplus registered in recent years originates entirely in trade with socialist countries, offsetting a substantial deficit in trade with market economies.

(*Millions of US dollars*)

| | *Trade balances* | *Services* | *Transfers* | *Other* | *Current account* |
|---|---|---|---|---|---|
| 1979 | −167 | −518 | 40 | 90 | −555 |
| 1980 | 279 | −610 | 46 | 437 | 152 |
| 1981 Jan.–June | 226 | −151 | 21 | 58 | 154 |

*Source:* National Bank of Hungary, *Market Letter*, No. 1, September 1980; No. 2, March 1981; No. 3, September 1981.

*Note:* "Other" is errors and omissions.

TABLE 3.6.10

**Trade between the developed market economies and eastern Europe and the Soviet Union, by country: 1975–1981**

*(Billions of US dollars, f.o.b.–f.o.b.)*

| | *Western exports* | | | | | | *Western imports* | | | | | | *Trade balance* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *1981*[a] |
| *Western trade with:* | | | | | | | | | | | | | | | | | | | |
| Bulgaria | 1.16 | 1.00 | 0.95 | 1.15 | 1.31 | 1.71 | 0.43 | 0.52 | 0.56 | 0.63 | 0.98 | 1.05 | 0.73 | 0.48 | 0.38 | 0.52 | 0.33 | 0.65 | 1.04 |
| Czechoslovakia | 2.11 | 2.30 | 2.27 | 2.57 | 3.07 | 3.37 | 1.82 | 1.89 | 2.10 | 2.40 | 3.03 | 3.55 | 0.29 | 0.41 | 0.17 | 0.17 | 0.04 | −0.18 | −0.32 |
| German Democratic Republic[b] | 1.31 | 1.49 | 1.40 | 1.23 | 2.66 | 2.81 | 1.17 | 1.21 | 1.36 | 1.52 | 1.83 | 2.28 | 0.14 | 0.28 | 0.05 | 0.21 | 0.83 | 0.52 | 0.62 |
| German Democratic Republic[c] | 2.90 | 3.19 | 3.28 | 3.99 | 5.28 | 5.72 | 2.46 | 2.67 | 3.01 | 3.40 | 4.26 | 5.26 | 0.46 | 0.52 | 0.28 | 0.40 | 1.02 | 0.46 | 0.49 |
| Hungary | 1.92 | 1.90 | 2.41 | 3.11 | 3.14 | 3.47 | 1.28 | 1.48 | 1.81 | 2.04 | 2.63 | 2.89 | 0.64 | 0.43 | 0.61 | 1.06 | 0.50 | 0.57 | 0.77 |
| Poland | 5.60 | 5.64 | 5.17 | 5.74 | 6.23 | 6.67 | 3.16 | 3.58 | 3.93 | 4.41 | 5.11 | 5.56 | 2.44 | 2.06 | 1.24 | 1.32 | 1.12 | 1.11 | 1.14 |
| Romania | 2.10 | 2.10 | 2.40 | 3.09 | 3.88 | 4.02 | 1.66 | 2.05 | 2.00 | 2.40 | 3.27 | 3.40 | 0.44 | 0.06 | 0.41 | 0.68 | 0.61 | 0.62 | −0.53 |
| Soviet Union | 13.19 | 14.42 | 14.43 | 16.66 | 20.04 | 22.93 | 8.92 | 10.97 | 12.64 | 14.41 | 20.52 | 25.84 | 4.27 | 3.46 | 1.80 | 2.28 | −0.48 | −2.93 | 1.27 |
| Total[b] | 27.39 | 28.87 | 29.03 | 34.06 | 40.32 | 44.98 | 18.43 | 21.69 | 24.38 | 27.81 | 37.37 | 44.58 | 8.96 | 7.18 | 4.64 | 6.25 | 2.95 | 0.36 | 4.00 |
| Total[c] | 28.98 | 30.57 | 30.91 | 36.32 | 42.94 | 47.92 | 19.72 | 23.15 | 26.03 | 29.69 | 39.80 | 47.60 | 9.26 | 7.42 | 4.87 | 6.63 | 3.14 | 0.29 | 3.86 |
| of which: *Trade between western Europe and eastern Europe and the Soviet Union, by country* | | | | | | | | | | | | | | | | | | | |
| Bulgaria | 1.07 | 0.91 | 0.87 | 1.04 | 1.20 | 1.48 | 0.39 | 0.48 | 0.53 | 0.59 | 0.92 | 1.00 | 0.68 | 0.43 | 0.34 | 0.45 | 0.28 | 0.47 | 0.70 |
| Czechoslovakia | 2.00 | 2.10 | 2.14 | 2.42 | 2.72 | 3.01 | 1.72 | 1.78 | 1.98 | 2.25 | 2.87 | 3.39 | 0.29 | 0.32 | 0.16 | 0.18 | −0.15 | −0.37 | −0.37 |
| German Democratic Republic[b] | 1.24 | 1.33 | 1.29 | 1.48 | 2.00 | 2.18 | 1.13 | 1.18 | 1.32 | 1.46 | 1.76 | 2.19 | 0.11 | 0.15 | −0.02 | 0.02 | 0.24 | −0.01 | 0.23 |
| German Democratic Republic[c] | 2.83 | 3.03 | 3.17 | 3.74 | 4.62 | 5.09 | 2.42 | 2.64 | 2.97 | 3.34 | 4.19 | 5.17 | 0.42 | 0.39 | 0.21 | 0.59 | 0.43 | −0.08 | 0.10 |
| Hungary | 1.80 | 1.80 | 2.28 | 2.95 | 3.00 | 3.28 | 1.22 | 1.40 | 1.73 | 1.94 | 2.47 | 2.75 | 0.59 | 0.40 | 0.55 | 1.01 | 0.52 | 0.52 | 0.72 |
| Poland | 4.65 | 4.64 | 4.29 | 4.59 | 4.99 | 5.42 | 2.81 | 3.15 | 3.49 | 3.85 | 4.55 | 5.03 | 1.84 | 1.49 | 0.80 | 0.74 | 0.44 | 0.40 | 0.36 |
| Romania | 1.72 | 1.68 | 1.87 | 2.50 | 3.17 | 3.07 | 1.47 | 1.78 | 1.70 | 1.97 | 2.80 | 2.99 | 0.24 | −0.10 | 0.17 | 0.53 | 0.37 | 0.07 | −0.70 |
| Soviet Union | 9.33 | 9.32 | 10.53 | 11.43 | 13.33 | 17.33 | 7.64 | 9.66 | 11.09 | 12.55 | 17.86 | 23.65 | 1.68 | −0.33 | −0.56 | −1.12 | −4.53 | −6.32 | −4.23 |
| Total[b] | 21.87 | 21.78 | 23.27 | 26.41 | 30.41 | 35.77 | 16.38 | 19.43 | 21.84 | 24.62 | 33.24 | 41.00 | 5.43 | 2.35 | 1.43 | 1.80 | −2.83 | −5.24 | −3.29 |
| Total[c] | 23.40 | 23.48 | 25.15 | 28.68 | 33.03 | 38.71 | 17.66 | 20.89 | 23.49 | 26.50 | 35.66 | 44.02 | 5.73 | 2.59 | 1.66 | 2.18 | −2.64 | −5.31 | −3.42 |
| *Reporting country* | | | | | | | | | | | | | | | | | | | |
| Austria | 1.28 | 1.29 | 1.42 | 1.66 | 1.99 | 2.09 | 0.93 | 1.06 | 1.28 | 1.35 | 1.72 | 2.28 | 0.35 | 0.23 | 0.21 | 0.32 | 0.28 | −0.18 | −0.61 |
| Belgium/Luxembourg | 0.86 | 0.79 | 0.76 | 0.85 | 1.06 | 1.31 | 0.60 | 0.57 | 0.68 | 0.78 | 1.01 | 1.54 | 0.26 | 0.22 | 0.08 | 0.07 | 0.05 | −0.23 | −0.17 |
| Denmark | 0.31 | 0.28 | 0.29 | 0.33 | 0.38 | 0.39 | 0.49 | 0.54 | 0.56 | 0.64 | 0.83 | 0.97 | −0.19 | −0.26 | −0.28 | −0.30 | −0.45 | −0.57 | −0.29 |
| Finland | 1.32 | 1.51 | 1.71 | 1.75 | 1.81 | 2.81 | 1.47 | 1.50 | 1.68 | 1.59 | 2.44 | 3.56 | −0.15 | 0.00 | 0.03 | 0.16 | −0.63 | −0.74 | 0.65 |
| France | 2.60 | 2.74 | 2.78 | 2.92 | 4.03 | 4.65 | 1.62 | 1.90 | 2.12 | 2.44 | 3.14 | 5.11 | 0.98 | 0.83 | 0.66 | 0.48 | 0.89 | −0.46 | −0.49 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Germany Federal Republic[b] | 6.46 | 6.25 | 6.65 | 7.71 | 8.70 | 9.44 | 3.04 | 3.81 | 4.32 | 5.43 | 7.73 | 8.20 | 3.42 | 2.44 | 2.33 | 2.29 | 0.97 | 1.24 | 0.46 |
| Greece | 0.26 | 0.29 | 0.33 | 0.38 | 0.36 | 0.52 | 0.24 | 0.36 | 0.34 | 0.58 | 0.52 | 0.54 | 0.02 | −0.07 | −0.01 | −0.20 | −0.16 | −0.02 | −0.08 |
| Iceland | 0.04 | 0.04 | 0.06 | 0.05 | 0.06 | 0.08 | 0.05 | 0.06 | 0.07 | 0.06 | 0.10 | 0.10 | −0.01 | −0.01 | −0.01 | −0.01 | −0.03 | −0.02 | 0.01 |
| Ireland | 0.04 | 0.02 | 0.03 | 0.04 | 0.07 | 0.11 | 0.09 | 0.09 | 0.11 | 0.13 | 0.18 | 0.14 | −0.05 | −0.07 | −0.08 | −0.09 | −0.11 | −0.03 | 0.04 |
| Italy | 2.17 | 1.97 | 2.29 | 2.41 | 2.63 | 2.74 | 1.75 | 2.30 | 2.44 | 2.75 | 3.60 | 4.96 | 0.43 | −0.34 | −0.15 | −0.34 | −0.97 | −2.22 | −1.79 |
| Netherlands | 0.80 | 0.76 | 0.82 | 0.94 | 1.14 | 1.42 | 0.74 | 0.88 | 0.99 | 1.15 | 1.72 | 2.17 | 0.06 | −0.12 | −0.17 | −0.21 | −0.57 | −0.74 | −1.45 |
| Norway | 0.26 | 0.27 | 0.28 | 0.32 | 0.25 | 0.27 | 0.23 | 0.32 | 0.38 | 0.31 | 0.39 | 0.36 | 0.02 | −0.05 | −0.11 | 0.01 | −0.14 | −0.09 | −0.14 |
| Portugal | 0.04 | 0.08 | 0.08 | 0.08 | 0.10 | 0.09 | 0.08 | 0.15 | 0.15 | 0.12 | 0.19 | 0.20 | −0.03 | −0.07 | −0.07 | −0.05 | −0.09 | −0.11 | −0.15 |
| Spain | 0.26 | 0.30 | 0.28 | 0.35 | 0.55 | 0.55 | 0.42 | 0.39 | 0.32 | 0.35 | 0.52 | 0.71 | −0.16 | −0.09 | −0.03 | 0.01 | 0.03 | −0.17 | 0.15 |
| Sweden | 1.10 | 1.03 | 0.95 | 0.98 | 1.18 | 1.20 | 1.01 | 1.05 | 1.06 | 1.01 | 1.64 | 1.51 | 0.09 | −0.02 | −0.12 | −0.02 | −0.47 | −0.31 | 0.08 |
| Switzerland | 0.74 | 0.79 | 0.88 | 1.06 | 1.07 | 1.06 | 0.33 | 0.49 | 0.58 | 0.81 | 1.10 | 1.38 | 0.40 | 0.31 | 0.30 | 0.25 | −0.03 | −0.31 | −0.11 |
| Turkey | 0.12 | 0.17 | 0.17 | 0.32 | 0.33 | 0.44 | 0.22 | 0.29 | 0.31 | 0.35 | 0.62 | 0.56 | −0.10 | −0.12 | −0.13 | −0.03 | −0.30 | −0.15 | −0.47 |
| United Kingdom | 1.29 | 1.18 | 1.46 | 1.87 | 2.06 | 2.63 | 1.38 | 1.70 | 2.04 | 2.13 | 2.63 | 2.67 | −0.09 | −0.52 | −0.58 | −0.26 | −0.57 | −0.05 | . . |
| Yugoslavia | 1.87 | 2.03 | 2.05 | 2.38 | 2.66 | 3.98 | 1.69 | 1.97 | 2.48 | 2.63 | 3.16 | 4.05 | 0.18 | 0.06 | −0.44 | −0.26 | −0.50 | −0.07 | 1.08 |
| Total western Europe[b] | 21.81 | 21.78 | 23.27 | 26.42 | 30.41 | 35.78 | 16.38 | 19.43 | 21.84 | 24.62 | 33.24 | 41.01 | 5.43 | 2.35 | 1.43 | 1.80 | −2.83 | −5.25 | −3.29 |
| Canada | 0.60 | 0.78 | 0.55 | 0.77 | 0.99 | 1.78 | 0.16 | 0.19 | 0.18 | 0.21 | 0.26 | 0.23 | 0.44 | 0.59 | 0.36 | 0.57 | 0.73 | 1.54 | 1.56 |
| United States | 2.79 | 3.50 | 2.54 | 3.67 | 5.67 | 3.85 | 0.73 | 0.86 | 0.92 | 1.51 | 1.86 | 1.43 | 2.05 | 2.64 | 1.63 | 2.17 | 3.81 | 2.43 | 3.46 |
| Total North America | 3.39 | 4.28 | 3.09 | 4.44 | 6.66 | 5.63 | 0.89 | 1.05 | 1.10 | 1.72 | 2.12 | 1.66 | 2.49 | 3.23 | 1.99 | 2.74 | 4.54 | 3.97 | 5.02 |
| Japan | 2.20 | 2.80 | 2.67 | 3.20 | 3.24 | 3.58 | 1.17 | 1.21 | 1.44 | 1.48 | 2.02 | 1.92 | 1.03 | 1.59 | 1.23 | 1.71 | 1.23 | 1.63 | 2.23 |
| DEVELOPED MARKET ECONOMIES[b] | 27.39 | 28.87 | 29.03 | 34.06 | 40.32 | 44.98 | 18.43 | 21.69 | 24.38 | 27.81 | 37.37 | 44.59 | 8.96 | 7.18 | 4.64 | 6.25 | 2.95 | 0.40 | 4.00 |

*Sources:* As for table 3.6.5.

*Note:* Based on western sources. A positive balance indicates a western surplus.

[a] Projected, assuming a continuation of January-September trends of exports and imports.

[b] Excluding trade between the Federal Republic of Germany and the German Democratic Republic.

[c] Including trade between the Federal Republic of Germany and the German Democratic Republic.

**Official export credit interest rates**

| | Recent consensus minimum[a] | | | New rates effective 16 November, 1981 | | |
|---|---|---|---|---|---|---|
| | Maximum repayment term-years | | | | | |
| | *2–5* | *5–8.5* | *8.5–10* | *2–5* | *5–8.5* | *8.5–10* |
| *For countries which are:* | | | | | | |
| Relatively rich | 8.5 | 8.75 | . . | 11.0 | 11.25 | . . |
| Intermediate[b] | 8.0 | 8.5 | . . | 10.5 | 11.0 | . . |
| Relatively poor | 7.5 | 7.75 | 7.75 | 10.0 | 10.0 | 10.0 |

*Source: Financial Times*, 12 October 1981, p. 2.

[a] Between May 1980 and November 1981.

[b] Includes the countries of eastern Europe and the Soviet Union.

surplus with eastern Europe is likely to remain about the same, at somewhat below $8 billion, since an anticipated higher surplus in invisibles is likely to be offset by a lower trade surplus. The western surplus has probably increased with each of the countries of eastern Europe, except with Czechoslovakia where it was unchanged. However, the largest change took place vis-à-vis Romania, with which the western current account surplus declined by some $1 billion, exclusively due to the change in the trade balance. With respect to the Soviet Union, the western current account deficit is likely to change to a surplus because of the large change in the trade balance. Overall, the total western surplus with the east may well have doubled in 1981 to some $10 billion, primarily as a result of trade movements and, to a lesser extent, to increases in investment income. The differences in the two sets of western current account estimates in table 3.6.8 reflect only differences in trade balances as calculated from eastern and western statistics (discussed above), since the estimates of invisibles used are the same. Consequently, the western current account estimates based on eastern trade data also tend to result in larger western surpluses (smaller deficits) than in terms of western data.

### (d) *East-west financial relationships*

East-west financial relationships have been of extreme importance in the development of east-west trade.[372] Before the intensification of this type of co-operation starting in the middle of the 1960s, eastern import growth from the west tended to be closely linked to the growth of eastern exports to the western countries. This relationship between exports and imports was gradually loosened by closer financial relationships, initially taking the form of western supplier, commercial bank, and official export credits for individual deals within the framework of industrial co-operation agreements, etc. However, subsequently there was a steady increase in the eastern utilization of other forms of credit such as untied bank loans and borrowing on the euro-currency markets. It is precisely because of this important role that commercial banking has attained in recent years in east-west economic co-operation, that special

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[372] This was also one of the conclusions drawn in a recent secretariat study, "Determinants of east-west trade", *Economic Bulletin for Europe*, Vol. 33 No. 4, November 1981.

### TABLE 3.6.11

### External position in domestic and foreign currency of banks in the BIS reporting area[a] vis-à-vis eastern Europe and the Soviet Union

(*Millions of US dollars at the end of the given period*)

| | | *Eastern liabilities* | | | | | *Eastern assets* | | | | | *Net eastern liabilities* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *1977* | *1978* | *1979* | *1980* | *Sept. 1981* | *1977* | *1978* | *1979* | *1980* | *Sept. 1981* | *1977* | *1978* | *1979* | *1980* | *Sept. 1981* |
| Bulgaria | U | 2640 | 3 174 | 3 085 | 2 614 | 2 105 | 492 | 492 | 711 | 774 | 831 | 2 148 | 2 682 | 2 374 | 1 840 | 1 274 |
| Czechoslovakia | U | 1 519 | 1 976 | 2 848 | 3 461 | 3 165 | 454 | 629 | 1 004 | 1 257 | 845 | 1 065 | 1 347 | 1 844 | 2 204 | 2 320 |
| German Dem. Rep. | U | 4 870 | 6 193 | 7 724 | 9 462 | 9 755 | 882 | 1 195 | 1 897 | 2 036 | 1 876 | 3 988 | 4 998 | 5 827 | 7 426 | 7 879 |
| Hungary | U | 4 772 | 6 449 | 7 370 | 7 447 | 6 889 | 1 068 | 899 | 1 166 | 1 376 | 811 | 3 704 | 5 550 | 6 204 | 6 071 | 6 078 |
| Poland | U | 9 076 | 11 723 | 15 049 | 15 137 | 14 230 | 399 | 808 | 1 097 | 620 | 805 | 8 677 | 10 915 | 13 952 | 14 517 | 13 425 |
| Romania | U | 1 419 | 2 543 | 3 978 | 5 297 | 4 651 | 199 | 222 | 298 | 263 | 384 | 1 220 | 2 321 | 3 680 | 5 034 | 4 267 |
| Total eastern Europe | U | 24 296 | 32 058 | 40 054 | 43 418 | 40 795 | 3 428 | 4 196 | 6 140 | 6 326 | 5 552 | 20 679 | 27 715 | 33 815 | 37 092 | 35 243 |
| Soviet Union | U | 11 618 | 12 761 | 12 922 | 13 388 | 15 375 | 4 362 | 5 852 | 8 621 | 8 568 | 4 512 | 7 256 | 6 909 | 4 301 | 4 820 | 10 863 |
| Residual | H | 2 407 | 2 723 | 2 939 | 3 004 | 2 488 | 455 | 506 | 628 | 673 | 583 | 1 952 | 2 217 | 2 311 | 2 331 | 1 905 |
| TOTAL[a] | | 38 321 | 47 542 | 55 915 | 59 810 | 58 714 | 8 311 | 10 603 | 15 422 | 15 635 | 10 753 | 29 887 | 36 841 | 40 427 | 44 107 | 47 961 |

*Sources:* Bank for International Settlements, quarterly press releases. The BIS reports contain the following notes:

A full country breakdown of the reporting banks' liabilities and assets is available only for banks in Austria, Belgium-Luxembourg, Denmark, France, the Federal Republic of Germany, Ireland, Italy, the Netherlands, Sweden, the United Kingdom, Canada and Japan and for the offshore branches of US banks. For banks in the other reporting countries–Switzerland and the United States–the country breakdown is less than complete and its extent is indicated by the use of the letters H (Switzerland) and U (United States). The figures for banks in the United States exclude all custody items except negotiable US bank certificates of deposit held on behalf of non-residents.

In addition, it should also be noted that a full country breakdown of reporting banks' liabilities and assets has not been available throughout the whole period 1977 to the end of September 1981 for banks in Canada and Japan. Consequently, the positions of the eastern countries are not always fully comparable on a year-to-year basis. Prior to 1977, the data did not include Austria, Denmark and Ireland. (Secretariat note.)

The BIS data exclude positions of banks located in the Federal Republic of Germany vis-à-vis the German Democratic Republic.

In any comparison of the banks' positions vis-à-vis Hungary with those vis-à-vis other east European countries account needs to be taken of the fact that Hungary finances virtually the whole of its foreign trade with funds raised in the international banking market, while other countries of this group do substantial foreign trade financing through other channels.

[a] Includes Albania.

**Changes in the assets and liabilities of eastern Europe and the Soviet Union at the BIS reporting banks**[a]
(*Billions of US dollars*)

| | | | | | | | *1981* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *Jan.–June* | *July–Sept.* | *Jan. Sept.* |
| *Changes in eastern:* | | | | *At current exchange rates* | | | | | |
| Assets | 0.3 | 1.3 | 0.2 | 2.3 | 4.8 | 0.2 | −6.3 | 1.4 | −4.9 |
| Liabilities | 9.0 | 7.2 | 4.1 | 9.2 | 8.4 | 3.9 | −2.7 | 1.6 | −1.1 |
| Net liabilities[b] | 8.7 | 5.9 | 3.9 | 6.9 | 3.6 | 3.7 | 3.7 | 0.1 | 3.9 |
| *Changes in eastern:* | | | | *At constant end-of-period exchange rates* | | | | | |
| Assets | 0.5 | 1.0 | – | 2.0 | 4.5 | 1.0 | −4.9 | 1.3 | −3.6 |
| Liabilities | 8.5 | 6.5 | 2.0 | 5.5 | 7.0 | 6.5 | 3.0 | 1.0 | 4.0 |
| Net liabilities[b] | 8.0 | 5.5 | 2.0 | 3.5 | 2.5 | 5.5 | 7.9 | −0.3 | 7.6 |

*Sources:* Bank for International Settlements, *Fifty-first Annual Report*, Basle, June 1981 and *International Banking Developments*—first, second and third quarter. See table 3.6.11 for explanatory notes.

[a] Changes are calculated between the ends of the given and preceding periods.

[b] A positive change in net liabilities indicates net borrowing by eastern Europe and the Soviet Union.

importance attaches to the significant changes that have taken place in this relationship during the past two years.

In 1980 *commercial bank credits* continued to be the predominant source of external finance[373] for the eastern countries. Changes in eastern *liabilities*[374] amounted to $6.5 billion at constant exchange rates.[375] However, since eastern *assets* increased by $1 billion, *net liabilities* increased by $5.5 billion.

This financial policy may be contrasted with the one pursued in 1978 and 1979 when net borrowings were lower ($3.5 and $2.5 billion respectively), but gross borrowings were relatively high ($5.5 and $7.0 billion), the differences being the comparatively large increases in deposits ($2.0 and $4.5 billion—of which eastern Europe accounted for about $1.8 billion and the Soviet Union $2.7 billion in the latter year). In both years, this policy may have been associated with the general build up of reserves which took place at that time, as more favourable borrowing conditions prevailed in international markets, but which, by and large, came to an end in 1980. Secondly, the increasing deposits registered in this statistical series by the Soviet Union[376] may also reflect the growing role of the CMEA banks in the recycling of surpluses of the oil-exporting countries.

The first three quarters of 1981 were characterized by a sharp increase in net borrowings by the eastern countries which amounted to some $7.6 billion. This is their highest level of net borrowings from commercial banks since 1975. In contrast to past years when gross borrowings accounted for all of net borrowings, in 1981 the $7.6 billion drawn were almost equally divided between gross borrowings ($4 billion) and the reduction in deposits ($3.6 billion). Thus even if gross borrowings in the fourth quarter are the same as in the third quarter (i.e. about $1 billion) the volume of gross borrowings in all of 1981 would still be below the annual rates in 1978–1980, in spite of the fact that net borrowings are up significantly from those years.

The data for the first three quarters conceal large differences in financial policies between the first half and the third quarter. In the first half, the draw-down in deposits was even more pronounced ($4.9 billion), but the trend reversed in the third quarter as deposits were built up by $1.3 billion. The build-up in deposits in the third quarter exceeded gross borrowings, thus leading to a small reduction in eastern net liabilities. The individual countries all

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[373] Commercial banks are defined as those making up the BIS reporting area (see table 3.6.11 for coverage). However, it should be noted that the eastern countries have also negotiated commercial credits with banks outside the BIS reporting system, and thus changes in positions vis-à-vis those banks are not reported here. In particular some Arab banks have emerged as a substantial source of credit in recent years.

[374] The following terms are used interchangeably: eastern assets: deposits; changes in eastern liabilities: gross borrowings; changes in net liabilities: net borrowings.

[375] Unless otherwise stated, the numbers given are changes at constant end-of-period exchange rates. Since flexible exchange rates were introduced, currency realignments have often caused significant changes in US dollar denominated asset and liability stock data and have thus affected the meaningfulness of changes in asset and liability stocks in dollar terms at *current exchange rates* as a measure of resource flows. Consequently, the discussion is based upon flows calculated at *constant end-of-period exchange rates.* Flows calculated by the two methods can differ quite substantially as can be seen from the text table above which presents both concepts. Flows calculated at constant exchange rates for the individual eastern countries are not available from the BIS, but table 3.6.11 can be consulted for country asset-liability positions.

In the case of eastern Europe and the Soviet Union about one third of the 20.3 billion rise (i.e. about $6.8 billion) in their net commercial debt in US dollars between end 1975 and end 1979 is attributable to the depreciation of the dollar. This effect was most significant in 1977–78, and less so in 1979. In 1980 the sign of the bias changed as the dollar appreciated and current exchange rate figures understated net borrowings by $1.8 billion. The exchange rate effect was even more significant in 1981. It may also be added that the exchange rate effect has been relatively more important for official debt (not included here) which is predominantly non-dollar denominated.

[376] In the BIS data series, the assets and liabilities of the CMEA banks are included in the data of the Soviet Union.

**Assets-liabilities ratios of eastern Europe and the Soviet Union at the BIS reporting banks**
*(End of period)*

| | *1977* | *1978* | *1979* | *1980* | *March 1981* | *June 1981* | *Sept. 1981* |
|---|---|---|---|---|---|---|---|
| Eastern Europe . . . . | 0.14 | 0.13 | 0.15 | 0.15 | 0.12 | 0.13 | 0.14 |
| Soviet Union[a] . . . . | 0.38 | 0.46 | 0.67 | 0.64 | 0.40 | 0.26 | 0.29 |
| Total[b] . . . . . . . | 0.22 | 0.22 | 0.28 | 0.26 | 0.20 | 0.16 | 0.18 |

*Sources:* As for table 3.6.11. [a] Includes CMEA banks. [b] Includes residual.

shared in these changes, particularly as regards the building-up of deposits in the third quarter.[377]

Bulgaria appeared to follow a continuous policy throughout the nine months period of raising its deposits and decreasing its liabilities, and thus reduced its net liabilities to the BIS banks somewhat.[378] Romania also increased its deposits to some extent in both the first half and the third quarter, thus improving its liquidity position. Its gross borrowings in the first half were more than offset by a fall in liabilities in the third quarter (about $0.5 billion), thus resulting in a decline in its net liabilities for the entire period.[379] Poland also decreased its net liabilities mainly through the building-up in deposits, which reached a level of $805 million in September, up from a low of $546 million at end-June. Czechoslovakia, Hungary and the German Democratic Republic all increased their net liabilities, the first two mainly by reducing deposits, while the latter was the second largest taker of new credits ($1.4 billion) after the Soviet Union.

Of the $4.9 billion drawn down in deposits in the first half, the Soviet Union accounted for about $4 billion. It also arranged over $2 billion in gross borrowings, thus leading to an increase in its net liabilities of over $6 billion.[380] In previous years the Soviet Union had built up a high level of convertible currency reserves in western banks ($8.6 billion in 1980) which were reduced to $3.6 billion by June 1980. Soviet deposits rose by about $900 million to $4.5 billion in the third quarter, presumably as a result of gold sales, while new credits amounted to somewhat over $1.1 billion.

The fall in the eastern *assets:liabilities ratios* which took place in the first half of 1981 was reversed in the third quarter. In both Poland and Romania, the ratio had fallen to very low levels by the end of March 1981. In the Romanian case it has been associated

**International medium- and long-term bank credits**
*(In millions of US dollars)*

| | | | | *1980* | | *1981* | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *1979* | *1980* | *1981* | *Q3* | *Q4* | *Q1* | *Q2* | *Q3* | *Q4* |
| Bulgaria . . . . . . . . | 202 | – | – | – | – | – | – | – | – |
| Czechoslovakia . . . . . . | 450 | 475 | – | 275 | 200 | – | – | – | – |
| German Democratic Republic . | 656 | 397 | 497 | – | 178 | 277 | 50 | 120 | 50 |
| Hungary . . . . . . . . | 950 | 550 | 550 | – | 300 | 150 | 400 | – | – |
| Poland . . . . . . . . | 861 | 736 | – | 325 | 406 | – | – | – | – |
| Romania . . . . . . . . | 280 | 458 | 337 | – | – | 200 | 85 | 52 | – |
| Eastern Europe . . . . . . | 3 399 | 2 616 | 1 384 | 600 | 1 084 | 627 | 535 | 172 | 50 |
| Soviet Union . . . . . . . | 320 | 50 | 25 | 50 | – | – | 25 | – | – |
| CMEA banks . . . . . . . | 1 025 | – | 100 | – | – | – | – | – | 100 |
| Total . . . . . . . . | 4 744 | 2 666 | 1 509 | 650 | 1 084 | 627 | 560 | 172 | 150 |

*Source:* OECD, *Financial Statistics Monthly*, January 1982, table 1.31.

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[377] The comments made on individual countries in this section are based upon BIS data adjusted by the secretariat for exchange rate changes. Given the limited information on the currency composition of assets and liabilities and the sharp currency fluctuations which have taken place, any figures given should be regarded as approximate. Also see table 3.6.11 where assets and liabilities are given at current exchange rates. However, it is important to remember when looking at that table that all countries' assets and liabilities tended to be reduced in the first three quarters because of the appreciation of the dollar.

[378] In the first half of 1981, Bulgaria prepaid a Euromarket loan syndicated in 1977 and announced the imminent prepayment of another also obtained in 1977.

[379] The BIS statistics do not permit one to distinguish between the decline in liabilities due, on the one hand, to the repayment of loans coming due, or to the reduction of inter-bank loans, on the other.

[380] It has already been noted in section 3.6(ii) that projections of Soviet trade in 1981 indicate that the Soviet Union experienced its first trade deficit with the convertible currency area (developed market economies plus developing economies) since 1976.

**Estimated flows between the BIS reporting banks and the eastern countries, syndicated medium- and long-term credits, and costs of syndicated credits**
(*Billion US dollars and percentages*)

| | | | | 1981 | 1981 | |
|---|---|---|---|---|---|---|
| | *1978* | *1979* | *1980* | *Q1–Q3* | *Q1–Q2* | *Q3* |
| 1. Syndicated credits | 3.6 | 4.7 | 2.7 | 1.4 | 1.2 | 0.2 |
| 2. Gross borrowings[a] | 5.5 | 7.0 | 6.5 | 4.0 | 3.0 | 1.0 |
| 3. Net borrowings[a] | 3.5 | 2.5 | 5.5 | 7.6 | 7.9 | 1.3 |
| 4. Syndications/gross borrowings (in per cent: 1÷2) | 65 | 67 | 41 | 38 | 39 | 17 |
| 5. Syndications/net borrowings (in per cent: 1÷3) | 102 | 190 | 48 | 20 | 15 | 13 |
| 6. *Euromoney* index of syndicated loan costs (1979 = 100)[b] | 115 | 100 | 120 | 147[c] | 116 | 190[d] |

*Sources:* BIS and OECD. See text tables above

[a] At constant end-of-period exchange rates.

[b] The *Euromoney* index for the centrally planned economies is published by the monthly of the same name. It is essentially a weighted average of spreads divided by a weighted average of maturities. Spreads and maturities are weighted by the fixed weights for each country, and also by the size of the loans. *Euromoney*, January 1982, p. 13

[c] January–October.

[d] July–October.

with a foreign exchange squeeze since deposits fell to a level of $147 million by end-March. Subsequently they rose to $384 million by end-September.

The volume of *international medium- and long-term bank credits* raised by the eastern countries in 1981 amounted to $1.5 billion (see text table on p. 308).[381] This is about $1.1 billion below the level of syndications in 1980, which were already down substantially from the 1979 level. Moreover, a slowdown in new credit takings is evident in the second half of 1981 relative both to the first half of 1981, as well as to the second half of 1980.[382] No syndications were announced in January or the first half of February 1982.[383] In January of both 1979 and 1980 eastern syndications totalled at least $200 million.

An analysis of borrowing changes on a country-by-country basis suggests that there is likely to be a variety of explanations for the slowdown in borrowing. One of the major reasons has been the departure of Poland from the market.[384] On the other hand, lack of need for new credit seems to explain Bulgaria's absence. Czechoslovakia, which has had one of the best credit ratings, apparently has chosen to meet some of its financial needs by drawing on its currency reserves. In the second half of 1981, Romania experienced some difficulties in borrowing, which apparently reduced its new credits below desired levels. For the German Democratic Republic and Hungary, borrowing activity was about the same or higher than in 1980 (but below the levels of 1979). Nevertheless, borrowing became more expensive (see below) and eastern demand may have been reduced somewhat for that reason.[385]

As a result of these trends, the ratio of syndicated credits to gross borrowings[386] has been falling (see table above). The tendency is even more pronounced if syndications are compared to net borrowings.[387] This implies that the eastern countries have increased recourse to short-term financing and other non-

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[381] It should be borne in mind that although data on syndicated Euro-currency credits are the most current available indication of the borrowing activities and needs of countries, they do, nevertheless, represent only a portion (and often a markedly changing one as shown below) of a country's total amount of commercial borrowing. No short-term credits are reflected in these figures, nor are non-syndicated loans, which can also be considerable in the case of certain borrowers.

[382] The borrowing in the last quarter was influenced by the following developments. The CMEA International Investment Bank, which has enjoyed excellent borrowing conditions, obtained a credit of $100 million. The conditions for this particular credit were an interest rate set at one-half point over the London interbank rate for the first two years, increasing to five-eighths point for the final three years, plus front-end fees. On the other hand, an $80 million Eurocredit that Romania had negotiated (conditions: seven-eighths point over LIBOR; 8 year credit maturity) in conjunction with the purchase of nuclear power plant equipment was shelved by the participating banks.

[383] This information should be regarded as preliminary, as should the data for the fourth quarter of 1981.

[384] The formal rescheduling of Poland's debt has essentially precluded further Eurocredits for the time being. In lieu of access to the market, much of the financing of Poland's debt servicing has been met mainly through the rescheduling of interest and repayments. Nevertheless, Poland continues to have considerable convertible currency credit needs.

[385] It may also be noted that total borrowing costs, which include nominal interest rates plus spreads and front-end fees, rose to record levels in 1981. From a macro-economic point of view, such costs can constitute quite a heavy burden, and thus may also be an explanation for lower borrowing in some cases.

[386] Gross borrowings (and net borrowings) at constant end-of-period exchange rates as reported by the BIS (see text table above). These data reflect not only a very large part of the syndicated credits, but also short-term and unpublicized borrowing. Credit obtained from outside of the BIS reporting area is not included, but the figures presented should give an idea of general trends.

[387] The second indicator, syndications/net borrowings, is probably more revealing since it also accounts for changes in deposits. As mentioned above, changes in deposits were very important in 1979 (increase) and 1981 (decline).

**Undisbursed credit commitments**

| | *(In millions of US dollars)* | | | *(As a percentage of country liabilities at BIS banks)* | | |
|---|---|---|---|---|---|---|
| | *End-June 1980* | *End-Dec. 1980* | *End-June 1981* | *End-June 1980* | *End-Dec. 1980* | *End-June 1981* |
| Bulgaria | 495 | 479 | 317 | 14.1 | 16.7 | 13.6 |
| Czechoslovakia | 391 | 295 | 209 | 12.5 | 8.3 | 6.4 |
| German Democratic Republic | 1 407 | 1 505 | 1 512 | 14.5 | 15.2 | 14.6 |
| Hungary | 670 | 669 | 625 | 8.6 | 8.4 | 8.9 |
| Poland | 3 920 | 3 870 | 2 285 | 24.9 | 23.9 | 15.5 |
| Romania | 1 199 | 1 050 | 747 | 21.6 | 18.2 | 13.8 |
| Soviet Union | 2 270 | 1 722 | 2 006 | 18.3 | 12.8 | 13.9 |
| Total[a] | 10 368 | 9 601 | 7 702 | 17.9 | 16.1 | 13.4 |

*Source:* BIS, *The maturity distribution of international bank lending–first half 1981–developments*, January 1982.

[a] Includes Albania and residual.

syndicated borrowing, transactions in which it has perhaps been somewhat easier for them to agree to conditions that may be less favourable than in the past. Indeed during the last two years, borrowing conditions for syndicated Eurocredits (as reflected by spreads, maturities and front-end fees) became less favourable for the eastern countries. The *Euromoney* index of borrowing costs rose from an average of 100 in 1979 to about 120 in 1980 on account of a very sharp rise (to 220) in the second half of that year. Subsequently it declined, and remained fairly stable at about 120 during the first half of 1981. The second recent major rise in the index began about July, reaching over 200 in September, and then rising further to over 270 in October.[388, 389]

*Undisbursed credit commitments* dropped by some $2 billion in the first half of 1981, with Poland and Romania accounting for most of the decline.

*Bond issues* have provided only a small fraction of the credit needs of the few eastern countries which have chosen to use this method of finance. In the past several years, even this relatively low level of utilization has been reduced. In 1981, only Hungary made a bond offering (in October) for $20 million.[390]

**External bond issues by eastern Europe**
*(Billions of US dollars)*

| | *1971–1977* | *1978* | *1979* | *1980* | *1981* |
|---|---|---|---|---|---|
| Total | 643.0 | 30.0 | 72.7 | 50.0 | 20.0 |

*Sources:* OECD, *International Financial Statistics* and *Financial Statistics Monthly*.

*Officially supported export credits* have continued to play an important role in the financing of east-west trade, as is implied by the recent credit arrangements made in conjunction with the Urengoy gas pipeline projects, the Italian credits in support of machinery exports for the Romanian nuclear programme, etc.[391] Nevertheless, it is difficult to get a comprehensive view of trends in this area of credit. Official export credits are generally tied to, and used for, financing particular export orders, generally of machinery and equipment, but also of some agricultural products. Conditions normally require that the importer make a cash down payment of some 10–15 per cent.[392] As a result, this type of credit will meet only particular types of credit needs. However, if commercial credit becomes more costly or more difficult to obtain, some countries, which in the past have preferred the flexibility of commercial loans, may turn more to this type of financing.

Given the present interest of western governments in promoting exports it may be assumed that a sufficient supply of funds has been made available to meet most requests.[393] Yet there have recently been some cases of an unwillingness on the part of western governments to increase official financing because of its implication for their own pressured domestic public sector borrowing requirements. Even at the new interest rates established by the Consensus in October 1981 (see section (c)), officially supported export credits are still subsidized in most western countries. The supply of this type of credit made available to the eastern countries appears to have

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[388] It should be noted that the index may also have been influenced by the small volume of syndicated credits obtained by several countries during the second half of 1981. For this reason the index should be viewed only as a general indicator of trends. Moreover, it appears that there have been considerable inter-country differences in borrowing costs.

[389] It has also been reported that some eastern countries have had to pay premia on inter-bank loans which are normally arranged between banks at the London inter-bank rate (LIBOR).

[390] Morgan Guaranty, *World Financial Markets*, December 1981, p. 15.

[391] Also, the so-called "swing" credit, which is a trade credit facility made available by the Federal Republic of Germany to the German Democratic Republic in support of trade between the two, was renewed in December 1981. The credit totals DM 850 million ($380 million) and is interest free.

[392] It may also be possible to obtain commercial bank credits to cover this portion, but at the more costly commercial financing conditions.

[393] For example, a new global agreement (*accord-cadre*) was concluded between France and the Soviet Union at the beginning of 1981. Under the agreement the Soviet Union is guaranteed fixed interest rates for certain amounts of credit and certain maturities.

**Gold sales by eastern Europe and the Soviet Union**

| | *1974* | *1975* | *1976* | *1977* | *1978* | *1979* | *1980* | *1981* |
|---|---|---|---|---|---|---|---|---|
| In metric tons | 150 | 150 | 350 | 450 | 450 | 290 | 90 | 200–300 |
| Value (in billions of US dollars) | 0.6 | 0.6 | 1.4 | 1.8 | 3.0 | 2.8[a] | 1.8[a] | 2.7–4.0 |

*Source:* Bank for International Settlements, *Annual Report*, and press reports.

[a] Estimated using average annual London prices for 1979–1980.

been more stable than certain types offered by the commercial banking sector, in spite of increasing uncertainty.

Although the supply of this type of credit seems relatively assured, the development of demand in the eastern countries, given its limited applicability to certain types of imports, is uncertain. On the one hand, the Soviet need for this type of credit has been expanding rapidly as the negotiations for the Urengoy pipeline have progressed. On the other hand, the value of eastern imports of machinery and equipment has been stagnant, and probably declined in 1981 as import priorities have been changing. The higher interest rates on new official credits mentioned above may further tend to reduce demand as well.

*Other financing*, which includes gold sales by the eastern countries, most of which represent the sales by the Soviet Union, declined substantially in 1980 for the second year in a row to a level of about 90 tons. Two factors probably contributed to this development, the more important probably being the rapidly growing oil export revenues of the Soviet Union in 1979 and 1980. Secondly, the price of gold increased from an average of $193 per fine ounce (London) in 1978, to $307 in 1979 and $612 in 1980.

In 1981 gold sales reportedly increased to 200–300 tons, the latter figure implying a sales value of some $4 billion (at $425/fine ounce). It is likely that most of the sales were made in the last quarter of 1981 when prices were declining. Indeed, the sales themselves were probably a factor in this regard. These trends appeared to be continuing in the beginning of 1982.

The total net debt of the eastern countries to the developed market economies increased from some $72 billion at the end of 1980 to an estimated $81 billion at the end of 1981.[394] An important factor influencing the level of the debt (in terms of US dollars) was the substantial appreciation of the US dollar during 1981. Since the eastern convertible currency debt is denominated in a number of currencies, the revaluation of the US dollar led to a reduction in the dollar value of the eastern debt between the end of 1980 and the end of 1981, possibly by as much as $6 billion for all of the east (and by almost $2 billion for Poland alone) below what it would have been had exchange rates remained constant. The exact percentage reduction experienced by each country depends upon the currency composition of its debt.

**Estimated net debt of eastern Europe and the Soviet Union to the developed market economies**

(*End of year, billions of US dollars*)

| | *1979* | *1980* | *1981*(P) |
|---|---|---|---|
| Bulgaria | 3.7 | 3.2 | 2.3 |
| Czechoslovakia | 3.1 | 3.5 | 3.6 |
| German Democratic Republic | 8.1 | 9.6 | 11.3 |
| Hungary[a] | 7.3 | 7.4 | 7.8 |
| Poland[b] | 20.1 | 22.1 | 22.4 |
| Romania[c] | 6.9 | 9.1 | 9.6 |
| Eastern Europe | 49.2 | 54.9 | 57.0 |
| Soviet Union | 12.1 | 13.5 | 19.5 |
| CMEA banks | 4.0 | 4.0 | 4.2 |
| Total | 65.3 | 72.4 | 80.7 |

*Source:* Secretariat estimates; P–Preliminary.

*Note:* Gross debt includes short-, medium- and long-term liabilities. Assets include only eastern deposits in western banks. Net debt equals gross debt less assets.

[a] The estimates in this table are consistent with the definition of net debt applied in previous studies by the ECE secretariat. In this regard it should be noted that the Hungarian National Bank has given the Hungarian outstanding net convertible currency debt at $5.016 million at the end of 1979, $5.388 at end-1980, and $4.843 at end-June 1981. These sums, which are, by definition, different from those given in the table, reflect differences in coverage and above all the treatment of the country's gold reserves, which are not accounted for in the secretariat's estimates. See *Market Letter*, National Bank of Hungary, September 1980, March 1981, and September 1981. Also see note dealing with the Hungarian balance of payments in section (c).

[b] Poland's convertible currency indebtedness to other CMEA countries was $2.6 billion in 1981 (end-August data), which included $700 million owed to CMEA banks.

[c] Romania's debt includes debt to the World Bank and the IMF.

### (e) *East-west trade following the two rounds of oil price increases: a comparison*

Given the impact that the two rounds of oil price increases and subsequent policy measures have had on the world economy, it was felt useful to examine, in a cursory fashion, their effects on east-west trade. In the following note, the impact is evaluated in terms of trade volumes and trade and current account balances. The changes in several constraints between the two periods are also examined. (Also see charts 3.6.1(A)–3.6.1(B).)

In the years preceding the first round of oil price increases (1970–1973 in the following text table), the *volume of east-west trade* grew, on average, more rapidly than the total trade of the developed market economies with the world: western exports to eastern

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[394] These estimates are based upon trends in trade and invisibles during the first nine months of 1981, and accordingly should be treated as provisional estimates. If credit conditions did tighten in the fourth quarter, or if countries decided for various reasons to borrow less, they might have reduced their current accounts deficit with the west.

**Volume of trade of the developed market economies with eastern Europe, the Soviet Union and the world, 1970–1981**

| | *Average 1970–1973* | *1974* | *1975* | *Average 1976–1978* | *1979* | *1980* | *1981*[a] |
|---|---|---|---|---|---|---|---|
| *Western exports to:* | | | | | | | |
| World . . . . . . | 10 | 7 | −5 | 7 | 7 | 5 | – |
| Eastern Europe . . | 14 | 15 | 4 | 0 | 1 | −4 | −8 |
| Soviet Union. . . | 17 | −14 | 43 | 9 | 1 | 8 | 20 |
| *Western imports from:* | | | | | | | |
| World . . . . . . | 9 | 1 | −7 | 7 | 8 | −2 | −4 |
| Eastern Europe . . | 9 | 1 | 1 | 7 | 3 | −1 | −12 |
| Soviet Union . . | 6 | −7 | 7 | 9 | −2 | −6 | −8 |

*Source:* UN *Monthly Bulletin of Statistics*, and secretariat estimates. Average annual rates of growth.

[a] January-September relative to the same period in the previous year.

Europe and the Soviet Union grew significantly faster than did western exports to the world. On the other hand, western imports from eastern Europe increased at the same rate as western imports from the world, while those from the Soviet Union rose somewhat more slowly.

In 1974, the year following the oil price increase, the trade of the developed market economies with the world slowed appreciably, and in the subsequent year, 1975, the first full year of the recession, it declined sharply. Nevertheless, the volume of western exports to eastern Europe continued to grow relatively rapidly in both years. Exports to the Soviet Union grew somewhat unevenly, declining sharply in 1974, and rebounding strongly in 1975, thus averaging to a strong export push in the two years. On the whole, this development in western exports was in line with decisions of a medium- and long-term nature taken earlier in eastern Europe and the Soviet Union to import considerable quantities of machinery and equipment for the purpose of stimulating industrial growth.[395] In addition this strategy called for a greater reliance upon imported intermediate goods and, in some cases, on more consumer goods. Western imports from the east fared somewhat better than total western imports during this period.

Although the period 1976–1979 was one of recovery and growth in western trade, the average growth rates achieved were some 2–3 percentage points below those in 1970–1973. East-west trade also picked up, but at a slower rate as well, while important shifts took place in the structure of ECE intra-regional flows. The volume of western trade growth (both imports and exports) with the Soviet Union was rapid and exceeded that of its trade with the world by a couple of percentage points. Western imports from eastern Europe rose as fast as those from the world, thus re-establishing the same relationship that existed in 1970–1973. On the other hand, the volume of western exports to eastern Europe tended to be sluggish.

The development of east-west trade in the period following the second round of oil price increases (i.e. 1979 and after) has already been described in detail above in section (b). However, before examining some of the cyclical relationships between east-west trade and total western trade, the following observations can be made:

First, in contrast to the relationship that existed during 1970–1973 and 1976–1979, western imports from eastern Europe and the Soviet Union have developed less favourably during the present recession than have total western imports. This raises the question whether there are some factors, already mentioned above in section (b), that have taken on increased importance within the last several years.

Secondly, during the periods of decline of total western trade following the two rounds of oil price increases, western exports to the east behaved in an anti-cyclical fashion. This is particularly true of western exports to the Soviet Union, which boomed in 1975 and 1979–1981. It was also the case of western exports to eastern Europe in 1974–1975.[396] On the other hand, the declining western exports to eastern Europe in 1980 and 1981 behaved in a pro-cyclical manner. The reasons for this difference are examined below.

The macro-economic stimulus to the west provided by the anti-cyclical flow of western exports to the east has probably not been of major importance (although the effect after the first round was stronger than after the second), given the relatively small weight of exports to the east in total western exports.[397] Nevertheless, for some countries—Finland and Yugoslavia can be cited as examples—as well as for certain industries—presumably investment goods after the first round of oil price increases—the impact was significant.

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[395] It should be noted that a factor influencing western exports to the east and trade balances during the period in question, but which is not related to the oil cycle, is the occasional large purchase of agricultural products by the east. By coincidence, harvest setbacks have been experienced in several years corresponding to recession in the west. Thus, on the one hand, the recessions have reduced eastern export possibilities, while on the other, the purchases of food have increased expenditures on imports. The Soviet Union significantly increased its purchases of agricultural products in the west in 1975 and 1979–1981, while eastern Europe did the same in 1976 and 1980–1981.

[396] Western exports to both eastern Europe and the Soviet Union continued to rise in 1976, the year when developed market economy trade was recovering, and this trend thus contributed somewhat to the recovery.

Finally, *western balance of trade surpluses* increased substantially in 1974 and 1975. In volume terms western exports rose rapidly relative to imports in trade with eastern Europe in both 1974 and 1975. Since the western terms of trade with eastern Europe did not change appreciably in the same period, the western trade surplus with that region (which had already been rising) rose sharply (see table 3.6.7 and text table below). The western experience vis-à-vis the Soviet Union was somewhat different in that there was a deterioration in the western terms of trade in 1974, and a relative decrease in western exports, which led to a small western deficit. However, in the subsequent year the strong increase in western exports relative to import volumes, coupled with an improvement in the western terms of trade, led to a large rise in the western trade surplus. Thus during the years 1974–1976, the western trade surplus with eastern Europe and the Soviet Union together cumulated to about $20 billion (western data) or $27 billion (eastern data). The development of these balances is noteworthy since it was the western surpluses in this period that gave rise to the rapid accumulation of eastern debt. In 1973, the total eastern debt to the west was about $11 billion and had been increasing relatively slowly up to that time. By end-1976 it had risen to almost $40 billion. Moreover, the trade balances had a large impact on current account balances in the period 1974–1976 but less so in 1979–1981. The significance of this is discussed below.

**Cumulated trade balances of the developed market economies with eastern Europe and the Soviet Union**

| | *1974–1976* | | *1979–1981* | |
|---|---|---|---|---|
| | *Western data* | *Eastern data* | *Western data* | *Eastern data* |
| Eastern Europe and the Soviet Union | 19.5 | 26.9 | 7.3 | 14.7 |
| *of which:* | | | | |
| Eastern Europe . . | 12.0 | 18.0 | 9.4 | 11.6 |
| Soviet Union . . . | 7.4 | 8.9 | −2.1 | 3.0 |

The trade volume and balance data presented above suggest that a relatively rapid east-west trade adjustment process has developed on the part of both the developed market economies and the Soviet Union in response to higher real energy prices. During the two rounds of oil price increases, the western trade balance with the Soviet Union tended to deteriorate at first while Soviet export revenues from energy rose. However, in both periods, the revenue increase subsequently resulted in a very rapid rise of Soviet imports from the west, which, in turn led to a subsequent improvement in the western trade balance.

Generally, higher prices of imported oil have affected the developed market economies in two important ways. The loss in terms of trade represents a transfer of income to the oil exporting country. If this revenue is not re-spent rapidly in the oil importing country, thus leading to an increase in its exports, the economy will experience a deflationary impact. Moreover, if a large percentage of world oil exports originates in a "low absorbing" country, as has occurred during the recent period, oil revenues may not be used to directly stimulate oil importers' exports. These revenues are recycled, thus lengthening the lag between western expenditures on oil and the ultimate purchase of goods in the form of western exports. In fact, following both oil price rises, incertitude about the prospective OPEC expenditures response has added an additional element of uncertainty to export and output forecasts for the developed market economies. By contrast, it may be noted that the growth rate of western exports to the Soviet Union began to accelerate at most one year, and possibly less, after oil prices rose in both 1973 and 1979. Similarly, western export growth to eastern Europe was fuelled in 1974 and 1975 as petro-dollars were recycled from OPEC to eastern Europe, with western banks acting as intermediaries. However, subsequent to the second round of oil price increases, demand for recycled funds in eastern Europe has been relatively smaller for the reasons mentioned below.

A comparison of the *current account developments* between the developed market economies and the eastern countries on the one hand, and the developed market economies and the world on the other, following the two rounds of oil price increases, reveals important differences in the patterns of current account balances as well as in the relative impact of the east-west economy on the western external account.

Firstly, the $7 billion rise in the western surplus with the east in 1975 was relatively large in comparison with the total western current account deficit of $21 billion in 1974, implying that this regional flow played an important role in the rapid elimination of the western current account deficit. By contrast, after the second round of oil price increases began at the end of 1978, the western current account surplus with the east declined in the two successive years. Consequently, in comparison to the earlier period, trade with the east played a reduced role from the point of view of the west's external adjustment process. However, the situation changed somewhat in 1981 as the western surpluses increased, but in relative terms the effect was still substantially smaller than in 1975.

Secondly, due to the altered composition of the western current account surplus in the late 1970s, it provided a smaller stimulus to east-west trade than in 1974–1975. The western current account surplus in the early 1970s was essentially the same as the western trade surplus (invisibles balances being quite small), implying that the east was providing some

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[397] Even though the growth of exports to the east in volume terms was very high in 1975, i.e. 20 per cent, the share of exports to the east in total western exports was only 5 per cent. For western Europe, the share was 6 per cent. Subsequently, these shares have declined.

**Current account balance of payments of the developed market economies**

*(In billions of US dollars)*

| | With Eastern Europe and the Soviet Union | | |
|---|---|---|---|
| | *Western trade data* | *Eastern trade data* | *With the world* |
| 1972 . . . | 1.6 | 2.3 | 7.7 |
| 1973 . . . | 2.6 | 3.6 | 9.5 |
| 1974 . . . | 3.7 | 5.2 | −20.9 |
| 1975 . . . | 10.1 | 12.2 | 5.4 |
| 1976 . . . | 8.2 | 11.3 | −14.8 |
| 1977 . . . | 6.2 | 8.9 | −21.4 |
| 1978 . . . | 8.5 | 11.6 | 14.2 |
| 1979 . . . | 5.9 | 9.3 | −27.1 |
| 1980 . . . | 5.2 | 8.0 | −67.4 |
| 1981* . . . | 9.8 | 11.1 | −25.8 |

*Sources: Economic Bulletin for Europe*, Vols. 28 and 33, and tables 1.1.13 and 3.6.8 of this *Survey*

macro-economic stimulation (although it was probably relatively small as argued above) through its demand for western exports. With the large increase in the western surplus in 1975, the relative eastern demand for western exports was increased. By contrast, at the time of the second round of oil price increases, the western current account surplus with the east reflected mainly eastern interest payments on debt. This was particularly true in 1980, when the trade balance was almost zero (western data), and only to a lesser extent in 1979 and 1981, when there were positive western trade balances (see table 3.6.8). However, in real terms, these trade balances were still small compared to those in 1975 and 1976.

The interest payments, which in 1981 amounted to almost $9 billion, have several effects none of which is particularly significant from the point of view of macro-economic impact.[398]

The change in the evolution of western trade with *eastern Europe* during the two recessionary periods appears due to the tighter constraints that are presently being faced. When eastern trade deficits widened in 1974–1975, financing was facilitated by the highly liquid international financial markets that resulted from recycled OPEC surpluses. A convergence of east-west interests evolved as western banks competed to lend to countries with good credit ratings and, simultaneously, to diversify their portfolios as well. At the time the eastern countries had low levels of debt, and debt servicing was a relatively small burden. In spite of the ballooning deficits, the initial decision to borrow was made easier, since interest rates were declining (they were often negative in real terms) and borrowing conditions were improving. Nevertheless, in 1976 (during which eastern deficits were aggravated by large food imports), greater efforts were made to limit and even reduce deficits.

With the onset of the western recession in 1980 after the second round of oil price increases, there was neither a continuation in the growth of western exports to eastern Europe, nor an increase in western trade surplus, as had occurred some years earlier. However, tighter external constraints (a higher level of debt than in 1973, a greater debt servicing burden, and a current account deficit with the west of some $6–8 billion in 1979) necessitated a policy of import restraint even before the effects of the second oil price rise started to be felt. In this situation, the decline in western demand for east European goods in 1980 led rather quickly to a reduction in eastern imports from the west (see table 3.6.8). In this way the east European current account deficit has been kept roughly constant. However, in the meantime, the structure of the eastern current account has been changing as net interest payments have risen (due to rising interest rates[399]) while the trade deficit has gradually been reduced. This has tended to put a further downward pressure on western exports.

By contrast, western trade with the *Soviet Union* developed in a broadly similar manner after both rounds of oil price increases. These led to large additions to Soviet export revenue, which in turn was used to increase imports from the west. Similarly, once oil prices stopped increasing, the continuation of imports from the west led to Soviet deficits in both 1975 and 1981.[400] However, in both cases, the external constraints on the Soviet Union were not particularly tight given its relatively low level of debt, excellent credit rating in the financial markets, and its capacity to sell gold as necessary.

In the years leading up to the first oil crisis, there was a general trend in the west towards the lifting of trade restrictions affecting the east.[401] Consequently, the period 1974–1975, and possibly some years after that, was probably the least encumbered by restraints on east-west trade. However, as unemployment increased in the west and pressure grew on the balance of payments position of some CMEA countries, each group of countries tended to respond with a variety of measures affecting its total foreign trade and, thus, its east-west trade as well. Despite these tendencies, however, some countries did manage to continue to pursue trade liberalization in certain areas. Nevertheless, it is likely that by the onset of the second round of oil price increases, the general trend towards trade liberalization in the region had been reversed.

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[398] The interest payments are funds recycled into the international financial markets where, in the light of high liquidity, they now do little to directly increase the demand for goods. However, the flow of funds does represent a transfer of income to the west (particularly at the present high rates of real interest) and, presumably, stimulates western domestic demand at least to some degree.

[399] The development in Eurocurrency interest rates (reflecting a basket of Eurocurrencies) during the two periods also provides an interesting and important contrast. After the first rise in oil prices in 1974, interest rates shot up, but plunged in 1975, after which they remained at relatively low levels until 1979. By contrast, interest rates rose, on average, in three successive years (1979–1981) reaching historically high levels in the last year. Net interest income of the west from the east increased from some $1.6 billion in 1975 to $3.6 billion in 1978 and to about $8.5 billion in 1981.

[400] Also see footnote 395 on p. 312 dealing with agricultural trade.

[401] This development has recently been reviewed in quantitative terms in "Determinants of east-west trade; 1965–1978", United Nations, *Economic Bulletin for Europe*, Vol. 33 No. 4, 1981, Chapter 3, pp. 574–575.

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